

Original Correspondence.

PRACTICAL MINING—SUGGESTED IMPROVEMENTS.

Dr. Carlyon, the venerable physician of Truro, wrote long since of the injuries sustained by miners from the constant raising of their heavy hammers to strike the borers, in a narrow space and in a vitiated atmosphere. R. Lanyon, the late experienced surgeon of Camborne, confirmed Dr. Carlyon's views. In addition to this deterioration of the living man, there is the great expenditure of money, and yet more of time, in boring by human labour. I have dwelt on these important points, in different years, at the meetings both of the Polytechnic Society and of the Mining Association, and I communicated to the former a letter from C. Sommeiller (one of the engineers of the Mont Cenis tunnel), which reported to me the success of his very elaborate boring-machine, worked by air, which the inexhaustible water-power of the Alps enables him to compress. But in the mines of Cornwall and Devon (except in rare instances), the loss of power in forcing from the surface a current of compressed air to the ends of long levels would be very great; it might easily be done near the engine-shaft and in the sump by a connection with the pump or other rods.

I have never been sanguine as to the economical use of steam in the levels, whether directly applied, or employed to compress air. I have often suggested the introduction of small hydraulic engines, worked by pipes communicating with some of the cisterns in the shaft. If there are grave mechanical obstacles to the giving of a rapid motion to the hammer by the action of an hydraulic piston, it might be done by a very small turbine-wheel, or by using the pressure of the column of water to compress air in the very spot wanted. The cost of extra coal to pump up again all the water required as a motive-power to lift the hammers 60 times per minute (even in a large mine) would be trifling. I hope that E. Crease may at length succeed by some such application of motive-power in putting his boring-machine, with improvements, which can result only from continued experiments, at the head of the corps of Sappers and Miners, better than an Armstrong gun, to sink sumps instead of ships, boring through adamantine rocks instead of through iron plates, to save men's lives instead of destroying them; not, like the Chancellor, to increase the rate of the income tax, but greatly to increase the amount paid by mines, and in many cases, by the rapid and cheap opening of levels, to save mines themselves from being abandoned after superficial trials, to the great damage both of lords and adventurers.

C. Fox.

THE GOLD DEPOSITS OF MERIONETHSHIRE.

SIR,—I shall esteem it a favour if Messrs. Reay, Hopkins, Martin, and the other gentlemen who differ from George Henwood's opinions on the gold deposits of Merionethshire, will, in their future correspondence, mention his Christian as well as his Sur-name; as I am unwilling to be mistaken for a party to the controversy. WILLIAM JORY HENWOOD.

Clarence-place, Penzance, April 6.

GOLD MINING IN WALES.

SIR,—Whilst the mind of a large portion of the mining public is still occupied with the question of gold quartz mining and reduction, I shall endeavour to unravel a part of the question as referring to the probabilities of profit and loss upon the speculation, and, laying it before them in as clear and fair a light as I possibly can, leave them to judge for themselves. But here I will hazard the remark, that the speculation in gold mining in Merionethshire, as at present and heretofore carried on, has been, and is, of a nature somewhat reckless.

Among the general mass of your readers, and in most of the prospectuses usually laid before the public, the cost of production and extraction of the ore is rarely or never thought of or included. We are given a number of tons, said to contain so many ounces or pennyweights of gold per ton, and the cost at which it can be reduced from the ore, and we are left to draw the inference that the source of the profit lies wholly in the cheapness and effectiveness of the extraction of the gold, and, therefore, the profit depends entirely upon the skill of the metallurgist. When these profits are not forthcoming, all the onus is thrown upon the deficient metallurgy, and the reduction-master has to bear blame for not having extracted more gold than the ores contained, and for his expensive processes. Yet hardly a word do we ever hear of the poorness of the ore, or of the mine, or of the reckless extravagance and wholesale expenditure of time and materials in the mine department. In the meantime, we are amused with prospectuses showing assays of 1, 2, 3, 5, or 10 ozs. per ton, which are really "bona fide" results from samples of half-a-dozen picked stones, carried to London for assay, and to show to the shareholders.

To put the question in a clear and practical shape, and to show how much of the cost depends on the mining, and how much on the reduction of the ore, and taking an average and moderate basis to start from, and assuming that 80 per cent. of the gold is a reasonably good produce from fine gold ores, I will suppose the case of a lode down here of an average width of 3 ft., the positive produce of which shall be 8 dwts. per ton, and the assay content 10 dwts. per ton, and that when fairly into the "heart" of the formation (having passed through the decomposed killas and gossans) the cost for driving will average 8s. per fm., and stopping 6s. per fm., and that the mine is capable of producing 240 tons weekly, we shall approximate to the cost in this manner:—

Driving and stopping (including powder, fuse, candles, &c.)	Cost per ton	17s. 0d.
Tramming, hauling, and picking out refuse		1s. 0d.
Cartage to works		1s. 0d.
General expenses (manager, mine captain, purser, repairs, timbering, driving and sinking on unproductive ground, ropes, kibbles, pumping gear, &c.)		2s. 6d.
London expenses, and incidental charges		0s. 6d.
Total mine cost (6-7ths)		22s. 6d.
Total reduction cost (1-7th)		3s. 6d.

Grand total.....Per ton 26s. 0d.

Note that herein is made no charge for interest of capital or for working expenses of the machinery. In the case of steam-power being applied for hauling, pumping, or stamping, the cost would be still higher. It is probable that, by judicious management and the employment of mechanical power to prepare the stone for the stamps, the reduction cost might be diminished to 2s. 6d. or 2s. 3d. per ton.

We have now 8 dwts. of gold, at 80s. per oz. 32s. 0d.
Less cost 26s. 0d.

Leaving profit.....Per ton 6s. 0d.
Deducting interest on capital from this, there will not be a very large mining dividend of profit. I consider the above estimate of costs to be rather under than over the mark.

In order to give a fair and unprejudiced idea of the cost of mining on a large scale, I cannot do better than give a summary of what has been done in 1861 by the St. John del Rey Mining Company at Morro Velho, where they have a lode which averages 40 ft. wide, and has even reached 64 ft. at its greatest width; where a first-class labourer or miner does not cost more than 2s. 3d. to 2s. 6d. per day, and unskilled and second-class labour is infinitely cheaper than in this country; where they have an abundant and powerful supply of water. The mine is but little encumbered by water (for its size), and the probable outlay on buildings, estates, and machinery, cannot have been much less than 200,000l. (of which two-thirds from profit). The mine is worked upon an enormous scale, thus affording additional facilities for cheapness by the judicious division of labour; and where last, not least, the servants and officers of the company are kept under a systematic, strict, and most perfect discipline, resembling more that of a crack, smart regiment than of a mercantile concern; but even taking as an example this mighty mine, with all these rarely united advantages and favourable conditions I have alluded to, and referring ourselves to facts extracted from the report of work done in 1861, we find the following. (I will here premise that one Brazilian oitava is equal to 2 dwts. 7-348 grs., and that 104-091 oits.=1 lb. troy):—

The quantity of ore raised from the mine was	96,812 tons.
ditto treated by the stamps	71,902 tons.
1. The produce at Morro Velho was 490,964 oits.	525,754 oits.=5050-9 lbs. troy.
2. ditto from retreatment of residual sand, 26,690	
The value of the produce per ton in No. 1. = 6-94 oits.=16 dwts. 0 grs.	
ditto ditto No. 2. = 0-38 oits.= 0 dwts. 20 grs.	

Total value per ton 7-30 oits.=16 dwts. 20 grs.

The cost in that year was £116,044 = £1 12 3 3/4

The profit ditto 96,769 = 1 7 2 1/4

The total cost being 1l. 12s. 3 3/4d. and the reduction cost, as appears by the same report, being only 2s. 10 1/2d. per ton; and, deducting the latter, we have 1l. 9s. 5d. as mining costs and general charges, making the reduction cost equal to about 1-11th of the total cost.

Having thus before us the statistical returns of a large mine working under very favourable circumstances, producing and treating 1382 tons per

week from a monster lode, and costing 1l. 9s. 5d. per ton for mining and general charges, we may well ask what can we reasonably expect should be a fair mining cost per ton from the narrow hard lodes of Wales, and on reflection it will appear that my estimate of the probable cost per ton on the large scale is considerably underrated. Only let the Welsh miners get fairly down into the solid undisturbed slate and quartz, and then they will find out something about the cost per ton.

But where in Merionethshire have we four lodes, small though they be, that have any chances, or probabilities of a chance, of producing 240 tons of ore containing 10 dwts. average produce per ton per week? "Where, and oh where?" Will the wise men of Merioneth (the sellers) or their foolish associates the speculators (the buyers) tell us? or must we send for a duplicate Herr Dousterswivel, to show us them with his divining rod?

Far be it from me to deny that there are gold mines in this district which are well worthy of speculative investment, and which invite the confidence of the miner, with his guiding star of Hope, although it is highly probable that there are not two mines in the district capable of complying with the demands of the preceding paragraph at the present time—some for want of proper development, and the majority because the gold is not in them. It is a fact that nearly every metalliferous quartz lode in this district contains more or less gold, but it ought by no means to follow as a necessary consequence that speculators will do well by investing in, and still less paying highly for, a property which may continue to yield only traces of gold, till their and their successors' pockets are emptied. Why should speculators rashly buy in shares (at a premium) in a mine, the real value of which has never been proved by a single experiment, even though it were only on 5 or 10 tons, to show whether or not it really contained gold, and, if so, if the quantity would pay, or was at least encouraging (I should consider 3 to 4 dwts. to be an encouraging result)? We have here numerous companies, which in the most insane and reckless manner possible, and before they could have arrived at even an approximate fore-shadowing of an idea as to the richness or profitability of their mining property, are squandering away their time and money in erecting expensive sets of machinery, the practical merits of which have never been subjected to a fair trial in England, and may prove a success or a failure, like too many of its predecessors. "Whilst the poor stamps to gold the firmest friend" is "shelved" until the patent mania is over, when it will again be resorted to. If instead of spending thousands over these gimcrack grinders and amalgamators, and trying experiments when they should have been trying to get a produce, these wise "adventurers" had erected a small three or six-head stamps, with portable engine, at a cost of as many hundreds as of thousands in the other case, they might by this time have arrived at a very fair practical valuation of their ores.

"Bona fide" speculators (I speak not of the "men on Change") must not allow themselves to be persuaded that because they know there is gold in the lode, or have seen a few pretty specimens, it will be bound to pay, or else they will discover their mistake to their sorrow; nor should they fall back upon the error that the failing depends upon inefficient reduction processes. I have already shown, by the Morro Velho returns, that the cost of reduction forms only 1-11th of the total charges, and in my own estimate it is allowed to form 1-7th of the total cost, I have also demonstrated that it will require the value of 6 1/2 dwts. of gold to cover the costs per ton; therefore "caveat emptor."

Would-be adventurers in the Welsh gold mines, who intend to invest heavily in shares, should first secure the professional advice and service of a competent mining engineer and metallurgist to inspect the mines, and ascertain whether there really is, or is not, a paying or encouraging quantity of gold in the lodes. Many mines have been sold in this district for hundreds, which in reality are barely worth the "Tack-note" (value 6l.) April 8.

WILLIAM REAY, JUN.

Erratum.—In my letter of March 30, in the antepenultimate paragraph, for "copper bottoms" read "coffer bottoms."

GOLD IN WALES.

SIR,—I really am sorry to trouble you again upon this disagreeably interesting subject, but you must allow me to say a few words, now and then, to those who write about me. Mr. Reay now takes me to task—so be it, for I expect a ray of light from him. Mr. Reay's allegations are that I am "treading on slippery ground," and that I have "ventured to affirm a statement which is physically untrue." The "slippery ground," of course, refers to glacial action. The physically untrue statement is, that 60 tons of ore cannot be found at the Cambrian Mine that does not contain more than 30 grs. of gold to the ton.

Mr. Reay says this statement is untrue, because he has treated during his stay at the Cambrian upwards of 60 tons, "none of which, after careful assay, yielded 10 grains of gold per ton of ore, and the last sample, from 20 tons, only gave per assay 1 1/2 grs. per ton. I by no means wish to bring down upon me the wrath of Mr. Reay, but as the paragraphs of his letter touch upon one of the three interesting points under dispute just now, I must make a few remarks in my own defence.

The chief points of the gold question are, I apprehend—1. To find the approximate value of auriferous minerals in bulk.—2. To reduce the mineral to the finest possible state of division at the least cost, and with the greatest speed.—3. To extract the gold therefrom at the least cost.

To the first of these I direct Mr. Reay's attention, for it is of some importance to the rest, though not of so much importance as may seem at first sight. Notwithstanding Mr. Reay's acknowledged skill and experience, I very respectfully beg leave to affirm that he cannot "fairly sample" 60 tons of the Cambrian auriferous minerals, and that he cannot tell by any delicate balance that 20 tons only contain 35 grs. of gold, unless he reduce the whole quantity. Spectrum analysis may detect it, but not weigh it; indeed, I have not "defied" Mr. Hopkins to procure "a sample" from 60 tons. I challenge Mr. Hopkins to "fairly sample" 60 tons of the Cambrian ore. Mr. Reay says that Mr. Hopkins can, and he proves that Mr. Hopkins can because he (Mr. Reay) has sampled, by assay, 6630 tons a month at Morro Velho. Now, even this great fact, I regret to say, does not preclude in me any great amount of belief in its possibility. The proof cited of "the exactitude of the assays" at Morro Velho is no proof at all to me, for the difficulty in fairly sampling a bulk before treatment is, I think, almost as great when applied to the "residue" after treatment. Besides, Mr. Reay and I are believers in the existence of gold in other states than mechanically metallic. I have found titanium at the Cambrian. Can 60 tons be fairly sampled for that metal? It would be modest modesty in me to affect total ignorance of the Dolgelly district and its mineral veins; but I am ready to say, candidly, that I have been a very long time learning only a very little; but as at this stage of my progress Mr. Reay has been pleased to lay his hand upon the head of my hobby, I may tell him that I am open to conviction, and am, also, ready to join issue. I am willing to make Mr. Reay a proposition, into the consideration of which nothing unamiable shall enter. There is plenty of blown sand at Barmouth. Let 60 tons of it be taken free from gold. Let a packet containing a given quantity of the finest gold dust be placed in the hands of Caesar's wife, or anybody else above suspicion. Let her take at random an unweighed quantity from said packet; let a child go and scatter it over the 60 tons of sand; then let Mr. Reay "fairly sample" and give the "assay contents" per ton. Can this be done? The exactitude of the assay can be tested by the weight of Mr. Reay's produce, plus the balance of the original quantity held intact. If Mr. Reay can do this, I will believe he can fairly sample for gold, blende, galena, and copper pyrites, which, I fancy, is a far more difficult operation. I may be wrong; I hope that I am.

I am not surprised at Mr. Reay saying that his assay of the 20 tons "somewhat tasked the delicacy of the balance to determine." I should rather think it did; for there are a great many grains of matter in 20 tons! My reason for thinking that it is not possible to take a fair sample of a large bulk of auriferous mineral is, that the secreted gold is unequally disseminated through the mass, and the particles are of unequal weight. If this be not denied (as to Merioneth), surely it borders upon the imaginative to suppose it mechanically possible, with shovels, or to mix the bulk intimately as to render minute particles of gold equidistant, or equalised in weight per cubic inch, for the assay of 344,000,000 of grains of mineral containing only 35 grains of gold in the whole. The sampling of poorer ores does not apply.

One word upon the extraordinary heterogeneous conglomeration of names of practical men. I put that list of names alphabetically, to avoid giving offence. I am sorry to differ point blank with Mr. Reay, as to the accuracy of his assay of "my views of the meaning of practical," in the gold extraction sense. He is wrong for once. Up to date, at all events, to judge by profitable results, Captain Parry is the only practical gold extractor, and "Old Berdan" and "Little Britten" are the only successful machinists. I should like to see somebody and something else do better! Who's the man, and what the means?

But, I think the necessity for delicate balances and assays may be su-

perceded by actual practice upon 100 tons. The great consideration for the moment is not whether auriferous minerals can be "fairly sampled" in bulk, nor how to reduce it to impalpable fineness. The important point is, how shall it be treated when this stage is reached? The mineral is occasionally found very rich in bunches, &c., and I believe that several modes of treatment will be found to work profitably. I have no doubt Mr. Hopkins's plan would give a greater profit at Clogau than the Berdan machine, because a large quantity of gold is in the metallic state; but I do not think it could be profitably worked at either the Cambrian or the Prince of Wales, because of the excess of sulphurets there.

Allow me a word on Mr. Evan Hopkins's letter. He does not use my name; but I am in it, by implication, as being of Mr. Mosheimer's "party," of which I do not feel very much ashamed. The first six lines of his letter are not physically, but morally, untrue. They are literally false. Mr. Mosheimer's largest works are at Garthgell; and does this Goliath, Mr. Hopkins, suppose for an instant that the ten or fifteen gentlemen connected with the Garthgell Company are "alarmed" at Mr. Mosheimer's proceedings? I am one of "Mr. Mosheimer's party," and am a promoter of these speculations. I have invested a good deal of money in them, and will belong to anybody's "party" who can extract the gold at a profit. I can extract it myself in a small way; but I want to see it extracted on a gigantic scale, by agency accustomed to large operations, such as by Hopkins, Martin, Pascoe, and Reay. We have the Gibbon snore again, as to "committees of investigation," &c. I am a promoter of Garthgell, Tyddylwladis, Cwmheisian, and United Dolfrwynog Companies—all private; and I can answer for it, there is not one of the gentlemen connected with them who is in the slightest degree "alarmed," or who would feel the slightest pecuniary inconvenience if the speculations proved a total loss.

The only other companies patronising Mr. Mosheimer are the Cefn Coch and West Clogau—the former gets 1 oz. of gold per ton by Mr. Mosheimer's machines, the latter waits their erection. Under these circumstances, I affirm that Mr. Hopkins committed himself to the statement of that which is false. I very respectfully deny that Mr. Hopkins has done what he says he has at the Cambrian, or why are his blankets stowed away in the engine-house? I mean to persist in saying that he cannot do it, until I provoke him into the fact of doing it. He will then have his triumph. In the meantime, let him tell the truth. The gold shall come out. I wish Mr. Hopkins may get it. T. A. READWIN.

Stretford, April 9.

AMALGAMATION AND CONCENTRATION OF GOLD-BEARING ORES.

SIR,—Several of your correspondents having written long accounts about Chilian mills, crushing by stamps, concentration of ores, and about the various modes of gold extraction in South America, and little having been said of California, which appears to be considered by many as quite a secondary place as a gold-producing country, I venture to make a few remarks on the richest gold and silver-bearing country in the world—the Nevada territory.

As some may, perhaps, not possess a very clear idea as to the locality of the Nevada territory, I will in a few words endeavour to describe its position. If we travel from the Pacific Ocean about 150 miles towards the east, through the so-called valleys of California, we arrive at the mountains called Sierra Nevada, which rise from 8000 to 10,000 feet above the level of the sea. On the westerly side of these mountains, as far as the Pacific is California, and at their base are the so-called Foot-hills, stretching from Oregon to Colorado, occupying a space of about 30 miles broad, and 800 long, in which are found the buried treasures of California. In former years the gold was nearly always obtained from the alluvial deposits; now, however, it is mostly extracted from the solid quartz. New mines are discovered continually, and the production of gold is increasing every month, and many mines formerly abandoned have again been taken up, and are now worked, and the gold extracted by improved machinery, affording handsome returns to the owners. If we now cross over these mountains to the eastern slope we find ourselves, after a journey of less than 12 hours, from a beautifully fertile country, in a perfectly barren wilderness, and if we look down to the valley a bleak and gloomy aspect meets our eyes. This is the Nevada territory, and nothing is seen but barren rock, partly primitive and partly volcanic, intermixed with sand plains, producing only sage-brush, though here and there on the banks of the rivers may be described a few cotton-wood trees. This desolate country, however, once the property of the Mormons, is where greater treasures in gold and silver are obtained than in any other part of the globe.

As to the formation in which the gold and silver is to be found, I have neither time nor space to give a geological description, but I may say that the granite is found in close proximity to the secondary rocks, and that most of the lodes are between either slate or porphyry, the quartz containing the precious metals being generally of a rotten character. About eight years ago gold was first discovered in a semicircle around Mount Davidson (named after an Englishman, the first to ascend it), and a number of Mormons worked the adjoining ravines with success, but the great deposits of silver ore were then unknown. In 1859 the first specimen of silver was found, and brought to my laboratory for assay; this contained no less than 1000 ozs. of silver and 50 ozs. of gold per ton. I told the man who brought the specimen to bring me a bag of the stuff, which he did, and afterwards brought me 500 lbs., which he followed up with 3000 lbs. more; all these contained above 1000l. per ton in gold and silver. The next lot I received was about 40 tons, which contained on an average 660l. per ton. The generality of people did not believe all this, and placed as little confidence in the silver mines there as they now place in the Welsh gold mines; public opinion, however, was this time at fault, and the gold and silver now obtained is equal to about 200,000l. per month. The first mill erected to try the ore was a simple horse-power machine; this was afterwards superseded by a four-stamp mill of a very plain construction. I then bought the establishment, and erected upon the same place three mills of 10, 12, and 16 stamps. Many other mills were also erected at this time, so that there are now more than 1500 stamps at work in the country, crushing upwards of 1500 tons per day.

The principal lode in the territory is the Compstock or silver lode, which has yielded, and will yet yield, millions of dollars of gold and silver; it is several miles long, varies from 10 to 50 feet in width, and is of unknown depth. At the northern end is situated the great Ophir Mine, and at the southern end is the Gold-hill. The lodes on the northern end contain more silver than gold, while in those on the southern end is found more gold than silver. On the celebrated Gold-hill the ground is worth from \$2000 to \$5000 per foot; I have myself paid for some \$2000 per foot, and the ore we found contained mostly gold of about 400 to 800 fine, the remainder being silver. At first I smelted the rich ores in furnaces at San Francisco, and many tons of silver were produced by those means, but as the miners descended lower on the lode it got wider, and the ore became poorer, and would not pay for the heavy transport across the mountains to California, and for the cost of the English coal, at 6l. per ton, with which I smelted it. I, therefore, erected works for the companies owning the mines, and extracted the gold and silver from the ore by the following processes, which are carried on up to the present day. Ore that contained much silver was crushed dry by stamps, then roasted, and then amalgamated by the Freiberg barrel process. By another method the ore was crushed dry, and then introduced, with 40 lbs. of mercury, into amalgamating pans of from 4 to 9 ft. diameter, worked into a thick paste from one to two hours, then steam or fire was applied to the bottom of the pans, and a caustic alkali and other chemicals introduced to free the stuff from such foreign matters as destroy amalgamation, most of the gold and silver was thereby set free, and easily amalgamated. The stuff was then run off, leaving the quicksilver in the bottom of the pan for the next batch of ore; this was continued for a week, until the mercury was sufficiently charged with gold and silver, when it was removed in the usual manner. Another process was to crush the ore wet, and then amalgamate by the Hungarian or Austrian bowls. These bowls are about 2 feet in diameter, and hold about 40 lbs. of mercury, covering the bottom. The stuff is introduced in the centre through a wooden muller, passes over the quicksilver, and is discharged at the sides. I have put up more than a hundred of these amalgamators, and I must confess that for some ores they are as good as any that can be found, as they work continually, and require little attention, but they are not suitable for ores containing heavy sulphurets, as blende, lead, or copper, which make a crust-like deposit on the quicksilver; they then cut up the quicksilver fine, mixing it with the ore, whereby a good deal is lost in the tailings. To prevent losses of this sort I put up percussion tables of various constructions, and concentrated what was lost from the amalgamators. At the end of the tables I placed common sluice-boxes, lined with woollen blankets, which seldom paid for the outlay (notwithstanding Mr. Hopkins's opinion as to their being the only means to

save the gold); in these blankets some sulphurets of silver, and sometimes mercury, lost by carelessness of workmen, were caught. The production of gold by this process was from 80 to 85 per cent. of the gold contained in the ore. The amount of gold yielded by crushing the stuff dry, and then amalgamating in the before-mentioned pans, was from 90 to 95 per cent., and this method is, therefore, better for gold by from 5 to 10 per cent. than the barrel process, but the production of silver is not so good as by roasting the ore, and using the barrel amalgamation; the loss of gold, however, in the latter process is always greater than by amalgamating in the pans.

Mr. W. M. Brown considers that there is nothing so good as a Chilean mill, or edge runner. In California and the Nevada territory there have been many Chilean mills and arastras at work, but in most cases they have been thrown on one side, because they lost too much quicksilver, did not produce much gold, and also did very little work. The loss of a pound of quicksilver is not of much consequence in itself, but as it is always saturated with gold it is the loss of this that must be taken into consideration.

A very great variety of machines have been used in California and the Nevada territory, many of which are now abandoned, but it would take too long to describe them; I will, however, again refer to the large pans which Mr. Brown condemned on account of their being merely a modification of the arastra. It is well known that a large amount of metallic gold is found associated so closely with other metals or sulphurets that it adheres to it, as if held together by a natural affinity, and can only be separated by force, or by the decomposition of the sulphurets, whereby the gold is set free. Much gold is also coated with carbonate and sulphate of lime, and also with sulphate of iron, and many other substances; the consequence of which is that it will not amalgamate with mercury. I have often seen pieces of gold weighing, perhaps, as much as a half-penny thrown into quicksilver again and again without being touched by it; such gold the miners call rusty gold, which can only be amalgamated when the coating of the same is removed, either by mechanical or chemical means, or by both combined. By the pan process, after the gold-bearing ore is reduced to fine powder, it is put into the pans, and mixed with only such an amount of water as will bring it to the consistency of thick paste; the quicksilver is intermixed with it in the form of millions of little globules, without, however, being broken into a flourey state; the mullers, which form the agitators, being so arranged that they can be raised or lowered at pleasure, and must be put at such a height from the bottom of the pan that they do not break the quicksilver too fine, and yet are not so high that they merely stir up the stuff without such an amount of friction as will clean the gold. The machine I at present employ in the Welsh mines fulfils these conditions effectually, and I am prepared with this machine to challenge any man to extract as much gold from any ore in the same space of time, and at the same expense.

Mr. G. Henwood suggests that if the gold containing stuff be concentrated, even though all the gold be not detached from the sulphurets, and then sold to the smelters, a profitable business might be done. With this I perfectly agree, and have already provided the necessary machinery for so doing at the Cwmheisan Mine. I also proposed this plan some time ago to other companies. Concentration of such ores may be carried on at a very trifling expense, as the machinery employed is merely that for dressing coarse and fine slimes. The process of concentrating gold ores has been for many years carried on at the different gold mines in Austria, and some of the machinery there used would, I fear, quite astonish many of the great talkers in this country who write so much.

Such as assert that there is no one in North Wales who has ever worked any quantity of gold ore, I refer to the Directory of San Francisco, where they will find mentioned my chemical laboratory and smelting-works in Bryant-street, and to the Directory of the Nevada territory, where there is an account of my reduction works in the neighbourhood of Dayton, called the Aurora Mills, in which there are 38 stamps and 3 arastras, crushing 40 tons of rock per day, and in the amalgamating department Hungarian bowls, percussion and concentrating tables, barrels, and pans, working for both gold and silver, the mills being driven by two turbine-wheels of 30-horse power each. About the different modes of concentration (commonly called dressing), I will write to you in my next.

Dolgely, April 7. JOS. MOSHEIMER, C.E.

THE REVIVED WELSH GOLD MINING EXCITEMENT.

Sir,—My movements are so rapid, and my engagements so numerous, as to prevent my attending to the discussion which is now being raised with reference to this subject, much less to reply to the letters of the victims. However, I avail myself of a few spare moments to furnish your readers with the following general observations:—Where gold is found in paying quantities, the outcrop is the richest; and the gold is easily extracted by means of ordinary labour, as shown in South America, California, Australia, &c. Capt. Parry (of the Clogau) has shown how easily gold can be extracted from quartz, even by means of very defective mechanical appliances, when the specimens are rich.

At the commencement, gold mines generally produce from 2 to 4 ozs. per ton. In a country where gold only exists here and there in a few specks, and occasionally in small rich bunches, and not in bands and veins, as in the true auriferous formations, the success necessarily depends on the discovery of rich bunches, and not on any system of extraction; as the gold can be easily extracted from rich quartz. In large auriferous bands or veins of low quality predominating in pyrites, such as the St. John del Rey, Marmato, La Baja, &c., the success depends on the system of extraction, economy, and dispatch. At Marmato, when we used quicksilver in the trituration of the concentrated ores, the total reduction cost was from 12s. to 15s. per ton. After the introduction of the iron bottoms to increase the duty of the stamps, and a more perfect concentration, and the disuse of quicksilver, the cost per ton in the treatment has been reduced to less than 5s. per ton, and thus enabled us to treat the refuse with much profit.

I have been asked why I back the Cambrian stamper, who has never been in a gold country? I simply do so because I have trained him to the work, as I have trained many before, and who have flogged many such raw but reckless adventurers as those now seen at Dolgely. There are two agents now in Cornwall who have just returned from South America, who have had many years' experience in our auriferous pyrites and the quartz veins, and who are thoroughly acquainted with the processes, with and without the use of quicksilver, who I would back against, not merely the adventurers who are now at Dolgely, but against any of the so-called practical gold extractors who have been in the Californian and Australian diggings. Mr. Readwin, as well as some of those who presume to give their opinions on such matters, should first go and learn the business, and be entrusted with the care of such works, before committing themselves to print, and write such twaddle on gold mining.

Mr. Reay is a gentleman who has been thoroughly educated in his profession, and whose veracity can be depended upon. He has had the advantage of having been in charge of the reduction works of one of the most successful gold establishments in South America; therefore the public will be able to form a just opinion on the statements made, and act accordingly.

April 2. EVAN HOPKINS.

ON THE TREATMENT OF GOLD ORES.

Sir,—Mr. D. Onley Hughes is labouring under a great delusion when he thinks that the very trivial fact that a piece of auriferous quartz being heated in a muffle to the melting point of gold, a portion of the metal will fly to the surface, and form globules there, has anything to do with any one of my methods of treating gold ore.

With regard to the remuneration which Mr. Hughes assumes the proprietors of the mines would give me for extracting the whole of the gold from the ores, I have to observe that I myself had the best sett in North Wales—namely, Garn Mountain—and at one time had serious thoughts of working it, and likewise erecting my electric process on the neighbouring river, and I was only deterred from doing so by the number of years which, apparently, I should have to wait before that mine would be open sufficiently to supply the system with a sufficient quantity of ore to make it economical, as my estimates were based on the consumption of about 2000 tons per month. The outline of the process is, simply, a succession of large insulated vats, sunk below high water-mark, so that salt water might be used at pleasure. The ores were to be classified—that is, the pyrites or sulphurets separated from the silicious; and a strong battery-power obtained by the decomposition of the pyrites, which, with the assistance of gas, would be sufficient to decompose the quartz. I do not recommend this process in the present state of infancy of the question. What seems to be required is a suitable process to step in between the stamps and the blankets, as it appears to be determined that these methods shall be employed. It is a positive fact, whatever novices may think, that the gold ores of North Wales are totally unfit, when they leave the sieves, to be treated by the blanket process, and equally so to be treated by any mercurial process. People are misled by their notions about mercury, as mercury will do little or nothing more than a good mechanical contrivance,

and will cost six or eight times as much. Men with no just pretensions to chemical or metallurgical knowledge, put forward machines in which mercury seems to be master-man, head chemist, and, in fact, to fill the blank left by their entire ignorance on the subject. As the gentlemen connected with this question show a want of knowledge in the chemical part of it, I would recommend them to have recourse to a certain establishment in Jermyn-street, not much known at present, called the School of Mines. There is a first-rate staff at this establishment, amongst which are good chemists, who will, I have no doubt, be ready and happy to enlighten them on the subject. It possesses many advantages not to be met with elsewhere, and only requires to be used to become of great value to the practical miner.

After 30 years of constant labour, and a vast range of observation, I know, theoretically and practically, upwards of 50 different methods of treating such ores as the Welsh, between the stamps and the blankets, by which four-fifths of the gold might be economically caught by the blanket process; but I beg to decline Mr. Hughes's offer, and to pay £1. at the Patent Office to publish the details of any of my methods. I intend shortly to go to Australia, and have no time to spare to locate myself in Wales. As Mr. Hughes kindly offers me chemical remedies, perhaps he will be good enough, on the presumption of the non-affinity of gold for oxygen, to give me a description of the process by which quartz might be compelled to combine with another equivalent of oxygen, or as much as would render it a chemical impossibility that the gold should have any affinity for it whatever; and at the same time he might suggest a name for the new arrangement of silicon and oxygen.

JOHN CALVERT, C.E.

167A, Strand.

GOLD IN WALES.

Sir,—It is possible that Mr. Calvert may not be tempted to divulge his process, even by the handsome way in which Mr. D. O. Hughes offers to deal with the publication. He may have views with which the considerations alleged by Mr. Hughes have no relation; and certainly we cannot dispute his right to be the sole judge of the conditions upon which he will dispose of his invention, which it appears from his last letter to the Journal he does not desire to withhold. At all events, there seems to me but little use in crying "the grapes are sour;" but as Mr. Hughes is possessed of an outline of the process in question sufficiently distinct at least to enable him to form a very decided judgment upon its principle, if he would really do us a service he will tell us what he knows of it.

The pretty little experiment, however, by which gold was forced in globules to the surface, and which Mr. Hughes mentions as Mr. Calvert's "electro process of extracting gold," Mr. Calvert himself has, as I am informed, always declared to be unsuitable to large metallurgical operations.

April 8.

GOLD MINING IN WALES.

Sir,—The murder is now out. The reason why Mr. Hopkins's process is not put into practice at the Cambrian Consols is that "Capt. Martin has not yet been able to get stuff of sufficient value to treat"—not even, as we may gather from the former gentleman's letter of March 31, "stuff containing only 40 grs. per ton." It appears that all that has as yet been proved about the mines is that "a few small patches of quartz and slate containing gold were found in the Cambrian Mines."

Compare this with the magnificent statements in the prospectus, as advertised—"Rich visible gold has been broken there within the last few days." "The company will be able to stamp at the rate of 70 to 100 tons of quartz per week within one month from its formation;" and "The company is thus able to commence active operations at once." I have put the last sentences in italics, because they are obviously calculated to make the public believe that gold extraction could be commenced at once, instead of it being a matter of uncertainty, as it is, whether the quartz was to be had. Compare the above statements and promises of the promoters with the facts now ascertained, and I ask—Was that treating the public honestly or fairly? Or was there any colour of a reason why 25,000l. in cash, and a similar amount in shares, upon the immediate disposal of which no restriction was placed—the enormous sum of 50,000l. altogether—should be paid for liberty to adventure money in mining there? The writer would be very sorry indeed to have been a party to such a representation to the public.—April 7.

P.S.—Some light is now thrown upon the remarkable absence in the Journal of reports of operations at the Cambrian Consols Mines by Capt. Martin.

GOLD MINING IN WALES.

Sir,—Induced by the many flourishing reports I heard about the existence of gold in Wales, I bought some shares in the Vigra and Clogau Mines, with the expectation of realising something out of it. At the last annual meeting Mr. Martin, the Chairman, stated that the stamps would be soon ready, and they would crush 30 tons per day. In order to verify this statement, will Mr. Martin be good enough to accomplish the promised result? I want to Dolgely to satisfy myself what was going on, and on personal inspection, I found that the stamps are nearly ready, but they appear the oldest and poorest contrivances of any in the whole district. I asked the captain what was next to be done? He said he did not know. I then asked him why they did not put up the same machinery as the other mines? I had seen at the Garthgall Mine a very promising amalgamating machine; I do not know much about it myself, but my companion, who had been in California for some years, said he had seen many similar machines there, and heard them spoken of very highly. I heard also that many other mines in the district have adopted the same machines; why, then, does not the Clogau have them, or something similar? I heard in Dolgely, privately, that Capt. Parry opposes everything that is offered, and he himself is not considered competent to advise any better plan than others; if that be in reality so, why do not the directors employ some experienced metallurgist, and not wait for mine agents, whose business is to look after the men, and not after chemical operations, of which they, perhaps, know nothing? I heard that Mr. Mosheimer, who is engineer to several companies in Wales, has even offered to build six amalgamators at the Clogau Works at his own expense, but Capt. Parry opposed in such a way that he finally declined doing so, and actually sold the machines to another company. Why do not the parties interested look into such matters, and not allow fancy notions to be carried out at the expense of shareholders? If Mr. Martin will go to the mine and to Dolgely he would soon find that there is plenty of room for improvement. I heard also that Mr. Mosheimer offered to build works at his own expense, and work the ore for half the gold that comes out. Will Mr. Martin inform us if there is any truth in this statement?

Dolgely, April 8.

EXTRACTION OF GOLD AND REDUCTION OF QUARTZ BY A DRY WAY.

Sir,—I had hoped, considering that so many gold mines were opening in England, that the process which I described in my letters about twelve months since would have been honoured with some attention, if it had only been to attempt to prove its worthlessness. As there are, doubtless, many mines yet to be opened, and in which a cheap and expeditious process of extracting the precious metal would be a desideratum, you will, perhaps, permit me again to lay my proposition before your readers, and to ask them, should they consider it practically useful, to give it their countenance by pointing out its advantages through your Journal, or if they discover any defect to point it out, that I may attempt to devise a remedy. In Mexico the crushed ore is simply saturated with water, and mercury is intimately mixed with it, by having the whole mass trodden by mules, the compound being allowed to remain for weeks before the amalgam is separated from the matrix. In California and the Australia a contrary system is pursued, no time whatever being allowed for the amalgamation to be effected. The quartz is crushed with stampers, while a current of water sufficiently strong to overcome the specific gravity of the quartz and sulphurets that abound in it, by its mechanical action, caused to convey it as rapidly as it is reduced to a fine powder into Chilean mills, and thence over shaking-tables; or it is simply conveyed from the stampers over ripples with mercury boxes attached, and then blankets, where that gold only is deposited which is of sufficient weight to overcome the force of the water, fine gold being saved only by chance, and in infinitesimal quantities.

Having described the existing systems of amalgamation, allow me now to discuss the views I entertain respecting them, which necessitates the introduction of an entirely different course of action. Mercury has no magnetic attraction for gold, and it is very generally covered with a film of sufficient tenacity to protect even clean gold when pressed upon its surface. Such being the case, it is to be wondered at that, with the very crude method of amalgamation described herein as in general use, the bulk of the fine gold should be lost, more especially when it is considered the auriferous particles are so infinitesimally small that even the film of water which surrounds them must in many cases be thicker than their own diameter? Indeed, the investigation I have made into the subject has fully satisfied me that by far the largest proportion of gold existing in either alluvial or quartz is so fine that even the film of air which must necessarily exist between one particle and another in a bulk of this fine gold, and the actual point of apparent contact of such a bulk laid on a body of mercury, interposes a sufficient barrier to prevent amalgamation. This being admitted, it must also be a necessary consequence that dampness on its surface must add another shield to its protection.

The above hypothesis being admitted, it does not require a great amount of consideration for anyone to feel convinced that the hurry-scurry style

of rushing the matrix through the mechanical process, by means of a strong current of water, must take the fine gold along with it, and that the thick muddy state of the water tends to keep the fine gold in suspension, assisting its escape. Another difficulty to overcome in saving fine gold is the action of the sulphurets. Generally speaking the quartz in this colony abounds in minerals, which naturally require a strong current of water to clear them from the amalgamating apparatus. A centrifugal action is set up by the current coming into contact with the various angles of the apparatus, thus operating in its turn upon the metallic sands, which, by their specific gravity, have a natural tendency to collect the fine gold. More attention has recently been paid to the collection of the waste sulphurets, but the methods applied in all instances are of the most crude nature. I am also of opinion that calcining the quartz for the purpose of liberating the sulphur and arsenic, and rendering the quartz more easily friable, is a great mistake, and is the means of forming a film on the gold, and rendering the surface of it a repellent to mercury, by which the loss of it is increased in the subsequent processes of amalgamation. By calcining a film is formed on the surface of the minutest particle of gold, and unless this crust is broken by abrasion previous to coming in contact with mercury, amalgamation cannot ensue; and I feel satisfied that I am fully justified in stating for every ounce of gold saved in the colony there is one to two ounces lost. I could state fact after fact in support of my assertion, but the limits of a letter will not admit of it.

That much may be done in the way of improvement, both in mechanical appliances and manipulation, will be admitted, and the process by which I propose to overcome the difficulties consists simply in crushing the quartz in its uncalcined or raw state, and amalgamating it with mercury; also, while dry, by trituration. The quartz rocks of any size are first thrown into a machine, similarly constructed to a stone-breaking machine, which will reduce with six-horse power from 4 to 5 tons per hour to the size of coarse gravel. The gravel is then conveyed to a trituration or grinding mill, of similar construction to an arastra, where it is ground in conjunction with the mercury to a fine powder. The amalgamation is thus rapidly effected, the mercury being thoroughly incorporated with the matrix, and divided into infinitesimal particles. It is now necessary to convey the dry amalgamated material to a cylindrical pitting-mill, in which sufficient water only is used to form a pulp, where by the assistance of heat the mercury combines again. It then passes to a centrifugal separating-machine, where the debris is finally washed away, and the mercury and amalgam is secured.

In the Victorian department of the recent International Exhibition, in London, I exhibited a case containing specimens of calcined and raw quartz, gold sulphurets, &c., illustrative of the subject. There were several specimens illustrative of the yields of fine gold obtained by various principles of amalgamation, which, I think, those of your readers who noticed them will admit were interesting. There was a specimen of the description of quartz operated upon, it being composed alternately of thin layers of silica and clay-slate, highly permeated with arsenical pyrites, and very rich for fine gold. The mine is worked at Steiglitz, and the quartz returns, after calcination by the ordinary process of reduction and amalgamation, about 6 ozs. of gold to the ton. That I should have a fair basis from which to start, a quantity of the same parcel of quartz as this specimen was reduced in its natural state to a very fine powder, and from that bulk the following results were obtained:—By dry assay (smelting), 122 ozs. of gold to the ton; by my dry process of mercurial amalgamation, 105 ozs. 11 dwts. 16 grs. of gold per ton; and by Mexican process, 86 ozs. 8 dwts. 8 grs. of gold per ton. The concluding results were obtained by the same bulk of powder after being calcined. By the same process of dry mercurial amalgamation I obtained 75 ozs. 16 dwts. 16 grs. per ton, and by the Mexican process 56 ozs. 11 dwts. 16 grs. of gold per ton.

These results naturally show that dry mercurial amalgamation by trituration effectually permeates the mercury throughout the crushed quartz, bringing it into intimate connection with the fine gold, saving a much larger percentage; that the sulphurets are rendered less obstructive by the dry process, that the protection afforded to fine gold by water is avoided, and that calcination is avoided, the effect of which is to coat the gold with a hard skin that acts as a repellent to mercury until broken. The baneful action of these sulphurets, causing so great a loss of gold, is now being tardily acknowledged by some who have had years of extensive practice in quartz-crushing, and who until lately would not admit the fact. To illustrate more clearly the quantitative loss of gold per ton of quartz, I will assume that the quantity of sulphurets existing in quartz averages as low as 2 per cent.; we have in the result herein detailed a loss of fine gold of from 1 oz. to 4 ozs. per ton of quartz, a quantity far in excess of the whole value extracted from the quartz in the first instance.

C. LEICESTER, Consulting Mining Engineer.

TREATMENT OF POOR COPPER ORES.

Sir,—Permit me to state, with reference to the report of Mr. Jonathan Down, referred to in the letter of Mr. George Henwood, in last week's Journal, that Mr. Down's conclusions are as illogical and unwarranted as they are calculated to do injury to the Gourock Mine, and to prevent the rendering marketable of much of the useless ore produced in our copper mines. I say—Firstly, that it does not follow that, because there are substances other than copper soluble in hydrochloric acid present in the ore, therefore the ore cannot be profitably treated by the wet way. Secondly, that although he may have ascertained from his analyses that he does not know how to treat the Gourock ores profitably, his assays (if I may so term them) inserted in the report, prove nothing whatever. And, thirdly, that if he will state through your Journal what the ores contain, and the price at which the acid can be delivered at the mine, he will find plenty of your correspondents who could enlighten him on the subject.

Mine agents should be extremely careful in stating that chemical processes, with which they are but slightly acquainted, cannot be profitably carried on, and Mr. Henwood is certainly entitled to the thanks of the whole mining community, and especially of the adventurers in poor mines, for affording an opportunity of preventing the propagation of such erroneous notions as those contained in Mr. Down's report.

G. W. A.

MASON'S ORE-REDUCING PROCESS.

Sir,—There is considerable difficulty in maintaining a discussion between two persons, one of whom resides in London and the other here; and it was only since the departure of the last mail that I came across the following letter, which appeared in the Journal of Sept. 27. As that letter has, probably, by this time been forgotten by most of your readers, and as I ought hardly to leave it unreplyed to, may I request the favour of your republishing it; my plea being that I am not responsible for the distance between London and Adelaide, and that the subject is one of increasing importance to the mining interest:—

Mason's Ore-Reducing Process.—Sir: This process, claimed for Mr. Rodda by his agent, Mr. Sinnett, in the Mining Journal of August 23, was, as I previously informed him, patented in Spain, and worked on a large scale, about seven years ago, by the Castilian Mining Company, at Hindobro, near Burgos. This clear and distinct assertion, made in the letter referred to by Mr. Sinnett, he has thought proper to forget. I beg leave to remind him of this point, and after a fair trial the process was abandoned as unsuccessful. Mr. Sinnett is, apparently, very grateful, and thankful for small mercies. He thanks a friend of Mr. Rodda for his letter, which appeared to me scarcely worth notice. Your readers interested in the reduction of poor ores may forget, through the lapse of time, the points at issue between Mr. Sinnett and myself.—I stated that, besides the process being already old, tried, and abandoned, that it was chemically and physically impossible, and I explained the reasons upon which I based my opinion.—2. I also called attention to the fact that no results beyond crucible experiments had been obtained, and we have none yet. If experiments have been tried at the Yataia Works "with furnaces and appliances," where are the results? How many tons of ore were operated upon? What was the produce of the ore? How much fuel, labour, &c., did it cost? What was the weight and produce of the stamped and washed metal? What was the produce of the waste? These are the questions practical men ask and require to be answered. The process, I understood, was for poor ores; and yet the only result Mr. Sinnett adduces of the success of the process was a crucible experiment on four pieces of charcoal, weighing 8 ozs., and from the previous sentence I infer four pieces of charcoal the same size, and the result was 4 ozs. of copper! A truly wonderful result, that a rich carbonate ore melted with charcoal produces 50 per cent. of metallic copper! True, Mr. Sinnett, the discoveries of the son exceed those of the father, even more than Watt eclipses Hero.

I am much interested in the economical reduction of poor copper ores; but these results do not satisfy me. What I want to know is, was all the copper reduced to the metallic state, and what was the expenditure of charcoal inside the crucible and fuel outside? We know that Saxler's process has now been in use at the Barra Barra Mine for the last twelve or fourteen years, and that the principle of that process is to reduce the copper from carbonate and oxide ores by one fusion. This is accomplished by mixing a small proportion of coal, or other carbonaceous matter, with the ore, and fusing in a common reverberatory furnace. When a judicious mixture of ores has been attended to, pigs of metal fit for the refinery can be produced by an expenditure of fuel of 1 ton of coal to 2 tons of ore. This has been done before Mr. Rodda's eyes for the last twelve years, and is, doubtless, the source of his inspiration; and from a careful study and examination, I am certain he will never be half so successful.

I like to see fair play. Mr. Sinnett has provoked this discussion by his own under-comparisons. Mr. Henderson fairly stated some time ago, in the columns of your valuable Journal, the actual results he had obtained on over 25,000 tons of ore, of a very low produce; giving every item of costs, assays, and results; frankly admitting that the process he had employed was only applicable to a small class of ores, but promising results by other processes, then being developed, which would embrace every variety of

ers. That did not suit Mr. Sinnett; who, in the capacity of agent-general for the modern Watt, made a blundering personal attack on one of your most valuable correspondents, and has evidently arrested his pen, much to the regret of A. CHEMIST, &c.

To begin with the end of this letter, I do not know who your correspondent is, and have no desire to be "personal" to him. Whether I "blundered" I am not the fit judge, but "A Chemist" may at once have his "regret" dissipated. He has only not heard from me earlier because we live on opposite sides of the earth. I now think his letter only needs to be replied to by me by my re-stating his propositions in their order, only in slightly varied language:—

1. The process has been worked on a large scale at Hindobro, near Burgo, and is old, tried, and abandoned.

2. It is chemically and physically impossible. [large scale.]

3. "A Chemist" wants to know what it has cost to carry it out on a

These contradictory propositions need no criticism, and Mr. Rodda writes to you by this mail, giving you results recently obtained at the new works erected at the New Cornwall Mine, near Wallaroo. I will only add that Mr. Rodda's process is making progress more slowly than I could wish, but steadily, and without one check or reverse. Our results are even more satisfactory than was anticipated; and when the process is sufficiently firmly established here I hope at some early day to aid in convincing "A Chemist and Metallurgist" of his errors on his own ground, and by arguments more conclusive than can be contained in letters. FRED. SINNETT.

Adelaide, South Australia.

SUBSIDIARY PATENTS.

SIR,—I would not deem worthy of notice the communication of the "Discoverer," that magnesia when mixed with gutta percha would render it white, and fitted for shirt collars and other articles of dress; but as it involves a question of veracity, I feel bound to refute so transparent a misstatement of facts.

About the middle of November last, Mr. Spencer, a manufacturer of machinery for the production of paper collars, called on me, he knowing that I had for many years devoted myself to the improvement in the treatment of paper materials. The subject of Dr. Cattell's refined white gutta percha was discussed, and I gave Mr. Spencer at that time a letter to Dr. Cattell. Now, as the magnesian gutta percha patent was only taken out on Jan. 23 last, or more than two months subsequent, what was there to prevent me from taking out a patent, had I desired to foolishly throw away my money? I never dreamed at any time of taking out a patent for the mere application of another's invention.

It is very singular that the "Discoverer," in his note to you, studiously avoids all allusion to the "magnesia;" how, then, did he get that important idea, or what is its use, if I did not in sheer humour suggest it? This wonderful specimen of a specification reads thus—its sense I do not pretend to explain:—"Having treated gutta percha, or India-rubber, so as to bring the same to a white state, which I can do, for instance, by the use of magnesia, or by the process known as Dr. Cattell's purified India-rubber, or gutta percha."

You, Mr. Editor, or those readers who know me, will never suppose that I could be guilty of such an act of folly as to desire to become associated with a shirt-collar patent made by the addition of magnesia to gutta percha or India-rubber. Dr. Cattell, moreover, never refers to India-rubber, but merely confines himself to the treatment of gutta percha.

There are certain assertions so supremely ridiculous as to defy refutation, they are perfectly invulnerable—this is one of them; to treat the matter seriously seems to be an unnecessary expenditure of one's time and talent. I am, however, more anxious in this instance to do so, in order to expose the artful dodge of the agents, who, in order to divert attention from their own incapacity in drawing up such a monstrously absurd specification, force an unwilling, simple-minded victim into the arena. It reminds me of the cuttle fish, which when hard pressed by its adversary emits a dark, inky, murky liquor, which so clouds the water in its immediate vicinity that it makes an easy escape in a direction very different from that which its opponent supposes. So these astute patent agents create a diversion. These artful tactics may be very successful with those who take all the fish that come to the net, but they should have weighed the consequences before further agitating this subject.

All I said in my former article on the Patent Laws in this connection was strictly, and to the very letter, correct. If further evidence is required, it will be most easy for me to transmit you Mr. Spencer's letter, and also that to Dr. Cattell. R. H. COLLYER, M.D., F.C.S.

Beta House, Alpha-road, N.W., April 6.

OPEN SHAFTS.

SIR,—The great evil with which mining companies and owners of the land in which mining is carried on are chargeable is the dangerous state in which abandoned shafts are left, being, for the most part, unprotected. This subject has been so frequently discussed in the Journal that I have little hope of any remedy for the evil, except from legislation. I trust that some Cornish Member of Parliament will feel it to be a duty to humanity to endeavour to obtain an Act of Parliament for its extinction. The number of deaths from this cause is very great; the names of the sufferers would fill columns of your paper. Two days ago, having been requested to go over a mine set near Hexas, I saw, on a slope, erected on a small mound close to a shaft, three Roman capitals (initials), with month and year beneath. On enquiry what the thing meant, I learnt that a poor man, in crossing the common on a way home in a stormy and dark night, fell into the shaft, and was found dead four days afterwards. The stone is a monument of that calamity. The shaft is 17 fms. deep; but not a bone of the man was broken. He probably died from cold or starvation. Sounds were heard two or three days after the accident by a man and woman passing near the pit; but they did not know that they proceeded thence. When they heard that the man was missing they mentioned the circumstance, and the deceased was drawn up. If, instead of being a poor man, he had been a nobleman, it is probable that the evil of which I complain would have been considered in high quarters, and rectified. "God is no respecter of persons"—the life of the rich and poor is the same with him. I am aware that in most mining leases the lessee is made to covenant to fence all uncovered shafts, but the covenant is rarely fulfilled—it is a dead letter, like some other parts of the lease. The lessees are permitted to work, and vacate the works, without any supervision from the lord as to this particular, and so the evil remains. The fault is to be charged partly on the agents of the lords, whose duty includes, or should include, this supervision. If lords permit lessees to go out of possession with shafts in the state described, they should direct the amount fencing to be done at their own cost, and, if necessary, the lessee for the needful. We live in a mining county, where the pitfalls are so numerous that I have made it a rule not to set down my foot without seeing where it can rest. I advise others to do the same. R. SIMONS.

ON "CALLING" MINES.

SIR,—If I may judge by the number of letters I have received since my last one appeared in your Journal, I may truly say that that letter has created quite a sensation amongst adventurers in calling mines.

Several correspondents hope I will persevere "until every calling mine is stopped," or, as one says, "until all these insidious ruination schemes are gone to smash." Others mention mines which are making regular two and three-monthly calls of 3s. or 4s., and ask "why they cannot be worked as cheaply as others, which are making only 1s. calls;" and others, again, call my attention to mines which are quite neglected by the market, and which they are assured will shortly commence dividends, and, therefore, ought, in their opinion, to be readily saleable. One of the latter class of speculators sends me a list of the mines he refers to, and which he has been informed are about to commence dividends. Innocent adventurer! He wishes me to call the attention of the public to them, and particularly the most prominent of the brokers. Were I to even name them, I fear a smile on the brokers' countenance would be the only result. Dividends, indeed! I wish he may get them. Most of my correspondents, however, are astonished that mines keep making calls; and some of them even imagine that one or two calls ought to be enough to bring the mines into a dividend state.

Now, I think the sooner they are undeceived in this respect the better it will be for them, and I, therefore, now tell them that it is not more than one mine in a thousand that commences dividends until calls have continued for years, and this with such an astonishing regularity, as not to be very agreeable to the adventurers.

It is the greatest folly for anyone to go into a calling mine, with the intention of holding on until the mine pays dividends or is abandoned, unless he can afford to lose every shilling he lays out on it. If he intends to hold on for 12 months only, let him ascertain how frequently calls are made, and the amount of them, and if he cannot afford to lose at least one-half of the money he will have to pay in that time, let him not touch calling mines, as calls will come as surely and as regularly as quarter-day, and in many cases more frequently.

As the following is, no doubt, the case of hundreds, I will relate what a correspondent writes me. He tells me he bought 100 shares in a mine, at 5s. each, and although he was led to believe a call would be required in a short time after his purchase was made, he had no idea they would be required every two months; that he was quite able and willing to pay the first call, or even one more, but both unwilling and unable to continue paying them; and that he was, therefore, compelled to sell his shares at 50 per cent. loss.

Now, to prevent such speculators as these from going into such mines as I term "the highly speculative class" has been the object of many of my letters, and I now tell them that nine out of ten of calling mines are of that speculative class, and that any adventurer who goes into them should be prepared to lose very considerably should the mine turn out a failure. I, therefore, say beware. Can you afford to lose your money? For, if not, let me beg of you not to touch these highly speculative mines; let not the lowliness of the price tempt you, as the calls will soon double and treble the price; rather divide state, as, with a judicious selection, the risk is reduced to a mere nothing, for although they may, from market operations, decline in price for a time, they will in all probability recover themselves; but, as I have repeatedly advised, let half a dozen or a dozen be selected, and on no account confine your operations to one mine only.

It is nonsense for adventurers to suppose that mines which are selling at a few shillings a share can be immediately worked at a profit, or even to pay expenses. It is also nonsense to keep down the expenses of a mine in the underground department purposely to make the calls moderate. In whatever part of the mine there is a chance of making

discoveries there ought men to be working, as the surface expenses are just the same whether much or little work is done underground.

It would, of course, be possible to work any mine so as to require only a quarterly call of 1s. a share, but this would be bad policy. Whenever I go into a calling mine, I invariably advocate its being worked with the utmost vigour; we thus discover in quarterly time we otherwise should whether the mine is valuable or valueless.

As to my correspondents who wish me to persevere until I have succeeded in preventing speculators from going into calling mines, and thus cause them all to be stopped, I can only say I sincerely hope that my letters will not have any such effect.

Calling mines are necessary, provided there are fair prospects of success, but let them be confined to the right class of speculators—to men who can afford to lose their money.

Let poor men speculate in them as they would in a lottery—let them hope to draw a prize, but not be cast down if they draw a blank; and if they cannot afford to lose the money the ticket may cost, let them not meddle with it. The prizes bear but a sorry proportion to the blanks, but when a prize does come it is something considerable—Devon Consols and East Caradon to wit.

Let them never forget that a mine cannot be worked without money, and that if one enough is not raised to pay the expenses of working, calls must be made to pay the difference. Also that in calling mines the whole of the money is not spent in raising the little ore they may send to the surface, but in endeavouring to make discoveries, and that although the shares in a mine may this day be worth 10s. each, and that in six months time, notwithstanding each share may have cost 10s. extra in the shape of calls, and yet even then be worth only 10s., it must be borne in mind that during the six months the possessor of the shares had the chance of any discoveries that might have been made.

To those adventurers who do not care about such highly speculative stock, I recommend PENDEEN CONSOLS, WHEAL UNY, WHEAL GREENVILLE, WHEAL HARRIETT, and NORTH DOWRA.—Addison-terrace, Kensington. A CAUTIOUS MAN.

WHEAL HARRIETT, AND THE "CAUTIOUS MAN."

SIR,—The "Cautious Man" has proved, to "his own satisfaction," that a speculator in Pendeen and Harriett's "may retire to bed," and "sleep comfortably." He tells us, too, "speculators in calling mines can form no idea of the relief one feels when they put their money into such mines as Pendeen and Harriett," &c.; by which, I suppose, he means to tell us these mines will be free from calls for the future; and, perhaps, "where ignorance is bliss, 'tis folly to be wise." But, will the "Cautious Man" guarantee there will not be a call in Harriett before this year is out? Of Pendeen and its merits I am in a state of ignorance; but having had my sleep very much disturbed through a high-priced attachment to that tickle jade, Miss Harriett, I have been let into a few secrets behind the curtains which may not have fallen to the lot of a "Cautious Man," though I am quite willing and ready to transfer over to him all interest in her future favours and prospects.

There was a vast flourish of trumpets at the last meeting of her admirers—the beauties of her complexion were wonderfully extolled by one of Madame Rachel's persuasion, and by her "captain;" the former holding something like 600 shares, and the captain a good interest in her. A share in her favours had gone up from 30s. to 60s., and there was no telling how high they were to go in the general admiration excited. Well, shall I confess that in my enthusiasm I purchased 50 shares, at 60s. apiece, and from that moment lost my repose and my sleep, notwithstanding what the "Cautious Man" says; for upon the principle, I suppose, that too much familiarity breeds contempt, every day I saw a golden charm, at least, vanish from the price I paid; and when half my outlay had gone, an examination of the books of the company, by a friend in London, showed us that the large holder, committee-man, and extoller of my charmer had about sold out at the high prices, and that the captain also had sold out! Judge, then, of my indignation and sleepless nights, and how consoling it was to learn that the ore in the principal end filled soon after the meeting; the profits of 600l. per month, which were almost guaranteed, dwindled in the first two months to 200l. per month (what will they be in the third); and, to add to my mortification, I was told by my broker that an outlay of a considerable sum of money must be made for steam-stamps; as what was left of her ladyship's tin was sold in the stone, and disposed of to great disadvantage to the company! Need I say that I soon "cut" Miss Harriett?

If the "Cautious Man" wrote his letter to punish the "bears," by getting up the price, I find no fault with him; at the same time, the price having gone up through punishing them, nothing that a "Cautious Man" can write can prevent their receding again very seriously, unless the prospects of the mine should improve; and I advise your correspondent to have the lady thoroughly inspected, and make a few enquiries as to her character in the neighbourhood, before he again flourishes his pen in her favour. Hull, April 6. OMEGA.

MINING IN IRELAND.

SIR,—Seeing that at the present time the notice of the mining public is being drawn to the capabilities and reasonable expectations of the county of Cork, I venture to offer a few comments on the subject. My attention has been for some time called to this district, and, as I have recently had the opportunity of tracing its lodes, of viewing the surface work of its mines, and also of going underground, I thought a few remarks might be acceptable. The prevailing rock is kiltan; even courses and strong quartz lodes are traceable in an easterly and westerly direction. There did not come to my notice any large quantity of gossan or mulline, though a little of each is occasionally met with. Copper ores in several places crop out at surface, and in a walk along the beach not far from the Cappagh Mine, several lodes from which copper has been taken can be traced in the cliffs. Malachite is also to be picked up at low water. I could not learn from my mind the advantages this district affords to me principally the following:—1. The ore is generally of a high percentage. 2. Labour is cheaper than in any other mining district, for the Irish (and especially those working with Cornish miners) are well satisfied with small pay; they are also shrewd, industrious, and able. 3. The run of lodes skirts the coast. In no place that I noticed was it more than three miles from a good natural harbour. 4. Coals from South Wales are cheap, and small cargoes can be taken on the return journey; whilst materials of all kinds are readily procurable from Cornwall. I cannot refrain from adding to these that the Irish are grateful for this kind of labour; and when anyone comes away from the district he must feel that the Englishman has a south-western promoter about him, and that the miner, whilst to the sister island the same advantage is offered in a similar form.

I would strongly recommend anyone who still clings to the idea that the lodes decrease in depth to descend one of these mines. I observed in Cappagh that exactly the reverse was the effect. In the higher levels the workings were in many places a few inches wide, and, in coming to the same lodes in the lower levels, they were gradually widening into feet. Let me here re-echo the opinion expressed in your paper a fortnight since, that this mine is destined after many years have passed to occupy a foremost place among the mines of this island.

Respecting the question of the 40,000l. or 50,000l. yearly profit, I need only add my regret that it is not a public, rather than a private, mine—for surely such dividends being received would bring every surrounding acre into notice and working. I had the pleasure of inspecting the Roaring Water Mine, now before the public. If you proceed to it by water, you pass up Roaring Water Bay, studded with islands, and enter an eastern arm of the bay, with high cliffs on each side. At the foot of one of these cliffs are the shallow workings of the company. I procured admission, and was much pleased with the nature of the ground, and with the produce of the lodes, as well as their bearing and character. It did not require a sanguine man to picture that now deserted bay the scene of active industry, and to gladden his eye being prepared for the market. The machinery is a most promising mine in private hands. Its dressing-floors had displayed large piles of fine yellow ore. Its machinery and appliances are excellent. There are many shafts abandoned within a mile or two of this mine. They seem to have been sunk at small expense, and the ore to be brought up and there left for the tenants to take away and put into the stone divisions between their fields. I broke off a piece of grey copper ore, of a good percentage, from a small outcrop where the pigs were kept. Schull Bay Mine is also worthy of notice; energy and capital will make this a very fine property. It contains some very rich ore. There is an island of a mile in length here, with a lode running in all directions. I believe it is about 1000 ft. long. Copper is obtainable at surface; and there is a shaft sunk, called the Dance's shaft, from the tradition that that nation worked here to advantage. I believe this will become the "Great Consol" of Ireland.

In conclusion, I wish I could induce every well-wisher to Ireland to go himself, or send a trustworthy agent, to these parts. Half-a-dozen or more mines could there be started under most favourable auspices, and none can tell how long it would avert Ireland's distress when crops were bad. I am afraid of taking up too much of your valuable space, or I would tell of Knockmahon, of Tow Head, of Ballydeob, of Mount Gabriel, of Crookhaven, and of Glenties.

I think soon of traversing the Isle of Man and Wales; and after my friends and myself have made use of my journal, if you consider it worthy of insertion, I will forward it to you for publication. VIATOR.

[We shall be glad to receive the "Journal" of our correspondent, as we are at all times anxious to obtain information for our readers.]

OLD WHEAL NEPTUNE.

SIR,—Being cognisant of the affairs of the Neptune Mining Company, I think I can satisfy your correspondent, who says the directors were acting unfairly in making the recent call. The sum expended on the mine up to this date, including 1500l. paid for the leases, is about 9000l. The estimate of what will still be required to bring the mine into a dividend-paying state is 3500l.; but against this will come any returns of ore that may be made. The cash in hand is 3500l., and the sum due on calls 10500l.—together, 14000l.; deduct from this 3500l. for total liabilities, there is a balance of 10500l. To this must be added the uncalled payments on the new shares that have been taken up (25000l.), which brings up the present available assets of the company to 35500l. There are 2500 of the new shares yet to be allotted, which will yield 65000l., and will more than meet any possible outlay on the mine. Such is the state of the funds, and I think your correspondent will acknowledge that few companies can show a better balance-sheet.

With regard to your correspondent's remarks as to the directors making the call so as to relieve themselves, I beg to say that such is impossible. The directors hold three-fourths of the shares, and are able to say that they have to pay three-fourths of all the calls that are made. Under these circumstances, the shareholders may be satisfied that the directors will make no calls that are not absolutely necessary. I hope your correspondent will have the fairness to acknowledge the unjustness of his remarks. London, April 9. A SHAREHOLDER.

DUN MOUNTAIN COMPANY.

SIR,—Will you allow me, through the Journal, to say a few words to the shareholders in this company? I do so because some of the shareholders have of late sold their shares at an absurdly low price, and, by so doing, have injured the property of other shareholders by reducing its market value. I wish to state a few plain facts, and if anyone doubt them they can easily satisfy their doubts by applying at the company's office, when they will find that what I say is correct, although by my card (which I enclose) you will see that I am wholly unconnected with the office.

The Dun Mountain chiefly produces chromate of iron, or chrome as it is commonly called, which is used for dyeing, bleaching, and other purposes, and for which there is a constant demand. The company's property contains immense quantities of this mineral, and they are situated away last year 4000 tons. Owing to a smaller demand than was expected, caused by the contraction of trade in the manufacturing districts, the price fell, and the first sale of 1000 tons was made at 4l. 10s. per ton; now prices are again rising to their usual level of 8l. or 9l. per ton, and, with (say) 3000 or 4000 tons a year to sell, this will give a handsome dividend on the company's capital of 80,000l. But, in addition to the chrome, there is copper, which may be fallen in with in quantity at any moment in sinking for chrome, and of which a certain quantity has already been discovered. There is also time (which has a ready sale in the province) in unlimited quantity; also good roofing slates, which are in demand; also firewood and wood for fueling, which is much wanted at Nelson; and the railway, which brings these products down at a cheap rate, almost pays its town expenses by passenger traffic. There are, therefore, various sources of profit, on the whole certain, with good management,

to produce a handsome and speedy dividend. It is true that the directors have been obliged to borrow 7500l., at a heavy sacrifice, rendered necessary by the then critical state of matters, and which the shareholders sanctioned; but the sale of 1500 tons of chrome will clear that off at any time. The management of the company has been excellent and cheap; for the directors have deferred receiving their fees for many years until they were dividing a good dividend (a rare instance); and the secretary is indefatigable, and by no means overpaid for the trouble he takes and has taken from the commencement—now ten years ago. And yet, with all these certain elements of success and handsome profit, some shareholders have been so silly as to sell at 10s. per share. There is no accounting for the folly of some people; but when the shares are at 2l. each they will see their folly. Meanwhile I lay these facts before them; and, as they are capable of easy verification, I strongly advise every shareholder not in need to keep his shares in his strong box for the present.—April 7. VERBUM SAT.

Meetings of Mining Companies.

WHEAL LUDCOTT AND WREY CONSOLS MINING COMPANY.

A general meeting of adventurers was held on the mine, on Thursday, Mr. J. C. ISAACS in the chair.

The usual preliminaries were disposed of, and the statement of accounts was submitted, which showed that the total receipts for ores sold ending April 8 was 5777l. 16s. 6d., whilst the total cost for November, December, and January was 4241l. 14s. 4d.; leaving profit, 1536l. 2s. 2d.

After the accounts had been read, the CHAIRMAN said it would probably be expected of him to make a few remarks on the accounts that had been read, explanatory of the circumstances in which the mine was now placed. Reports had been circulated that this mine was behind in its costs; this was quite true, but the fact had never been concealed; it had not arisen the last two years, but had been like it for years. Three months' cost had gone against three months' ore, the difference being that whilst November, December, and January costs composed the present quarter's accounts, the ore sold had been raised in January, February, and March, and sold (the greater part) in April; thus the balance as shown from the accounts, 2490l. 11s. 8d., was not an available balance, as the money had not been received for the ore sold this month, and would not for a week or two, when the pursuer would receive bills which the bankers would discount. It would be seen that during the quarter the assets had been more than the debts by 1536l. 2s. 2d., but seeing the state of the last account, this money ought not to be divided until the ore bills were received; and before dealing with it at all, perhaps the meeting would like to hear Captain Knapp's report of the mine, and its future prospects, so as to guide them in their decision.

Capt. KNAPP said it was true the silver had fallen off at the 84, but a discovery of silver-lead ore had been made in the back of the 96 fm. level, from which he hoped to raise several tons during the quarter. The costs during the past quarter had, owing to the wet season, been rather heavier than might be anticipated for the current three months, and they had also been increased by the bankers' charges for interest and commission.

Mr. E. COOKE stated that he was quite aware that a prejudicial effect was caused by the sales of ore being credited so closely. He represented a considerable interest in the undertaking, and he should prefer seeing a proportion of the profits earned during the past quarter carried forward in order to partly, if not entirely, obviate for the future such a large amount being paid to the bankers for interest and commission; and with that view he would suggest that upon the present occasion a dividend of 2s. 6d. per share should be declared, which would leave an undivided profit carried forward of 936l.

The accounts having been passed and allowed, upon the proposition of Mr. E. COOKE, seconded by Mr. SARGENT, a dividend of 2s. 6d. per share was declared. The usual complimentary votes terminated the proceedings.

NORTH TRESKERBY MINING COMPANY.

A general meeting of adventurers was held at the account-house on the mine, on Tuesday, Mr. B. MATTHEWS (the pursuer) in the chair.

The following statement of accounts was read:—

Balance from last account	£1001 13 0
Copper and tin ores sold, January, 1863	2073 3 9 = £3074 16 9
Cost for January and February	1020 15 1
Merchants' bills	374 19 11
Dues	115 3 5
Dividend, declared February 10	445 4 0 = 3146 2 5
Leaving credit balance	£ 928 14 4

The CHAIRMAN said he had much pleasure in reading the above accounts, as every liability was charged up to the end of February, whilst the ores raised in January and February were not credited, but would come to the credit of their next account. By adopting this mode of finance, their property was placed in a position second to none in the district.

The accounts were then unanimously passed, and a dividend declared of 1s. 6d. per share (445l. 4s.).

The CHAIRMAN, in answer to a question, said the next dividend, on June 2, would be the same as the one just declared.

Mr. THOMAS KING, of London, said he was much pleased with the accounts and with the satisfactory report just read. He saw, from the report, that the 77 fm. level had been poor, but was now worth fully 15l. per fm., and he had no doubt ere long the agents would be in a position to speak more favourably on this part of the mine. The ground was very good, and, therefore, they would be opening up ore fast. Their principal point of operation, however, was the bottom, or 90 fm. level. The lode in the 90 fm. level east was worth 5l. per fathom, and, as this was only about 8 fms. behind the level above, where they had a good lode of ore, he saw no reason why they should not have an early improvement. He really believed that this would lead to a continuation of the course of ore they had in the 77. He had a plan in his hands, and he might remind shareholders that the distance of unexplored ground between the engine-shaft and Treasler's, at the 77, was over 60 fms. (Hear, hear.)

Capt. PRYOR said he was exceedingly well pleased with the mine, and, looking at the change of ground on the bottom part of the mine, and also the improvements in the 77, he saw no reason why they should not look forward to a continuation of dividends.

The meeting separated, after passing votes of thanks to the Chairman and officers of the company for their diligent attention to the interests of the mine.

FOREIGN MINES.

ST. JOHN DEL REY.—The directors have received the following, dated Morro Velho, Feb. 28:—Produce, nine days of Feb., 11,197 oits.; yield, 7,233 oits. per ton.

EAST DEL REY GOLD.—The directors have received advices from Capt. Treloar, dated Sabara, Feb. 26. The mining operations are being pushed forward, but no calling for special notice has presented itself. They have been causing and dividing Henderson's shaft, and preparing to put in hoarsers, cisterns, &c. They have reopened the shallow adit west of Henderson's shaft, but have not yet reached 8 fms. where the water is falling into the shaft. In the engine-wheel level they are rising upon the lode, which is about 3 ft. wide, for ventilation. In the Emily Mine but few changes have taken place since last reported upon. In Justinian's level several lines of lode stuff have been driven through, and he concludes they are approaching the main lode. The castings, machinery, and stores ordered from England had arrived at Rio, and were being forwarded to the mines.

DON PEDRO NORTH DEL REY GOLD.—The directors have just received, per Parana steamer, advices from Capt. Treloar, as follows:—So far as we can judge, the produce will again be favourable. The points in operation are still looking well. We are only waiting the arrival of more force to commence more extensive operations.

PORT PHILLIP AND COLONIAL GOLD.—The directors have received, by telegram from Suva, the following advices in anticipation of the Australian mail, from their resident director, Mr. Bland, at Melbourne, giving the result of the month of Jan. 1863:—Quantity of quartz crushed, 2700 tons; yield, per ton gold, 9 dwts. 15 grs. The yield per ton of quartz during the month of Feb. was much improving. Receipts, 2588l.; payments, 1687l.; profit, 601l. Remittance, 1000l.

SANTA BARBARA GOLD.—The directors are in receipt of advices from Capt. Bryant, dated Paris, Feb. 27, and by which they are informed that he was erecting a barrel for amalgamating the gold on the same plan as that employed at Morro Velho; this was expected to be ready in a month. The following are extracts from his letter to the board:—In the mine, the lode in the bottom is improving in size and appearance; it is now from 7 to 8 feet wide, containing more pyrites. In the deep level south the lode is also opening out, and is at present 9 feet wide; the stone from this is also of a promising character. On the whole, I consider we are progressing favourably, and as the lode increases in size there is every reason to expect that the quality of the stone will improve, and after the next bottoms are cleared we shall be in a position to raise large quantities.

QUEBRADA.—The directors have received the reports of Mr. G. J. Pritchett, C.E., and Capt. J. Browne, late of Wheal Buller, who have recently inspected the company's land and mines. Captain Browne reports that the lode in the Quebrada Mine is 65 ft. wide, 40 ft. of which is yellow ore, of a produce of 18 per cent, and 25 ft. red oxide, or ruby ore, black oxide, grey ore, and native copper of a produce of 27 per cent. The bearing is east of north and west of south, and the underlie 3 ft. per fathom towards the valley, affording immense facilities for cross-cutting, the stratum being micaceous schist. He estimates the reserves at 32,400 tons, and that the ore can be raised and dressed at 2l. per ton. The only thing required to make these mines a source of inexhaustible wealth is a cheap mode of transit; there is no want of copper. Mr. Pritchett fully confirms Capt. Browne's report with regard to the mines. He considers the sanitary condition of the estate generally to be dangerous to foreigners near the coast, but towards the mines the temperature is agreeable, and he considers for all present persons extremely healthy. After the most careful consideration of the subject he all its bearings, the directors consider that the speediest and safest way to develop the extraordinary resources of the company's property will be to complete the Arica road as rapidly as possible, and with this view they are inviting tenders for the construction of the line from the mines to Yancare, and will proceed with other necessary arrangements with the utmost dispatch.

ALTEN AND QUENANGEN.—March 17: Raipas: The 30 fathom level, south-east, is still in the limestone, and favourable progress is being made. The 15 fm. level still yields some tolerably good work, where the vein is from 6 to 12 inches wide, containing some rich purple ore. In the 10 fm. roof stop the lode is 1½ ft. wide, yielding about 1½ ton of ore per fm. The shallow adit foot stop continues to yield good paying work, and looks kindly going down.—Old Mine: In the 5 fm. level workings, north of the rise, the lode is still very large, varying from 4 to 12 ft. in width, which of late has been unusually quartzose and coarse, but we cannot safely leave any portion of it unworked, owing to the ore being so irregularly dispersed throughout its extent. In the foot stop adjoining the rise the lode is 9 ft. wide, yielding 3¼ tons of ore per fm. In the level westerly of the lode is 8 ft. wide, and in the lower part of the working it is well mixed with ore—fully 3¼ tons per fm. In the last 3 or 4 fms. driving the lode has inclined greatly to the south, so that we now find it to be a portion of the west lode, being divided by a horse of greenstone, about 18 fms. in length. The lode continues large in Pederson's rise, and the matrix is of a kindly description, but at present it is not very rich in ore. The pitch above the 10 turns out from 3 to 3½ tons of ore per fathom, and looks kindly. In this level (10) south the branch recently met with has increased in size and value, being now 2½ ft. wide, with good ore work intermixed—fully 1½ ton per fm. This place looks more kindly than we have seen it for the last 12 months. It would be highly gratifying to meet with a productive channel of ground in this direction, it being all whole ground, which can be so easily commanded by Carr's adit. In other parts of the mine there is no alteration calling for remark. We have had much trouble

BRITISH MINES

EAST WHEEL AGAR.—F. Pryor, W. Johns, April 4: We are getting on very well with the sinking of Dunstons's shaft below the 16½ lode composed of gossan, with occasional spots of ore. In the 15, west of Dunstons's shaft, the lode has during the past month produced very fine stones of rich yellow ore; the end has now a good appearance.

EAST WHEEL GREENVILLE.—G. R. Odgers, W. Bennett, April 8: The lode at the engine-shaft sinking below the 55 is from 20 in. to 2 feet wide, composed of peach and carnot, with muddle ore, and tin, a little lead. The lode is in a 55, east of the

saving work. The lode in the 78, east of shaft, is large, at present unproductive. The lode in the stope in back of this level, west of shaft, is worth 30¢. per fathom. The lode

20 fms. east, is without change since last week, yielding good wdka. The 10 fm. level, west of the shaft, is without much alteration since last reported—presenting a better aspect. The 70 east is near the point of communication with the 44 from Symons's. Good Fortune: The 50 fm. level, east of the engine-shaft, is producing good stones of ore, but not to value. No change in the 44, west of Symons's shaft; all are pushing.

proved in the past week. In the 105, driving east of flat-rod shaft, the lode is 2 ft. wide, producing 1½ ton of copper ore, worth 61. per fm. In the 105, driving west of flat-rod shaft, the lode is 2½ ft. wide, producing 1½ ton of copper ore, worth about 61. 10s. per ton, and the ground more favourable for driving. Our tribute pitches are not looking so well.

1950

NORTH OF ENGLAND INSTITUTE OF MINING ENGINEERS.

The general monthly meeting was held in the rooms of the Institute, Neville Hall, Newcastle, on Thursday.

Mr. NICHOLAS WOOD (the President) in the chair.

The following gentlemen were elected members of the Institute:—Mr. John Nixon, East Castle Colliery, Gateshead; Mr. John Wood, Flockton Colliery, near Wakefield; Mr. Thomas Cookson, Parkgate Colliery, near Rotherham.

The President stated that the council had been engaged that morning in endeavouring to make some arrangements relative to the proposed special general meeting of the Institute to be held at the same time as the meeting of the British Association, in August. The sub-committee appointed for this purpose had had an interview with the local executive committee of the British Association, and they had also been in correspondence together, and there seemed to be several difficulties in the way of the meeting being held after the same manner as at Birmingham, as was originally proposed. The council would lay a special report before the members, but the substance of the recommendations might be stated as follows:—That a circular be issued to all the members of the Institute, informing them that the rooms of the Institute would be open for them and their friends during the meeting of the British Association; and that special meetings of the Institute would be held every morning before the opening of the sections of the British Association, so that members not residing in this neighbourhood would thus meet the resident members of the Institute, and of whom are composed the local executive committee of the British Association, and could receive from them all information relative to the meetings and excursions. Also, that all the papers which fall within the scope of the sections, and which may be prepared by the members of the Institute to be read at the special general meeting, and which would really include nearly all classes of papers, would be read before the sections of the British Association, and afterwards discussed at the usual general meetings of the Institute, and printed in the Transactions. If any of these papers did not fall within the scope of any of the sections, these could be read on the Saturday, after the close of the meetings and excursions of the British Association. He hoped that these arrangements would have the effect of inducing many of their distant members to attend the meetings of the British Association, who might not otherwise have done so.

SAFETY OF THE DAVY LAMP GAUZE.—The President then introduced the subject of the "Safety of the Davy Lamp Gauze," to which he had briefly alluded at the last meeting. His attention had been drawn to the subject by Mr. Greenwell, who had visited a colliery where they were in the habit of heating all their lamp gauzes red-hot previously to using them, to prevent their "exploding the gas should they become red-hot in an inflammable mixture." The subject was one of very deep importance, and he (the President) had since made one or two experiments, by inserting new lamp gauzes into the interior of a short red-hot pipe, when explosions occurred from volatilisation, and subsequent inflammation of the oil attached to the gauze. He had tried, in a similar way, gauzes which had been thoroughly cleaned and brushed, and also others after having been stepped in and thoroughly washed with a strong solution of alkali, and the same results followed. It seemed to him, therefore, probable that the oil was contained in the pores of the iron itself, introduced probably in the process of wire drawing. He thought that subject should be thoroughly investigated. Several explosions had occurred where safety-lamps were in use, and which had never been satisfactorily explained. Careful experiment should be made further to prove the liability of a red-hot gauze to explode an inflammable mixture, and the circumstances under which this could occur, and if it be found that this liability really does exist, then remedial measures should at once be sought for and adopted. Some years ago he (the President) made several experiments on the safety-lamp, the results of which had appeared in his Transactions. The gas was on several occasions exploded by putting the lamp rapidly through it, after the gauze had attained a high temperature, and it was quite possible that the explosion was caused by the co-operation and subsequent ignition of the oil attached to the gauze, and not to the passage of flame through the meshes of the gauze; it would be well if these experiments were repeated to determine this. He thought the matter might very properly be left in the hands of the "Experimental Committee," to arrange and carry out the necessary experiments; of course, any other member who might wish to be present at the experiments could attend. A resolution to this effect was then agreed to.

VENTILATION OF THE HIBERNIA COLLIERY.—The discussion on Mr. Atkinson's paper, "On the Comparative Efficiency of Two Modes of Ventilating the Hibernia Colliery, in Prussia," was then opened. The President explained that the Hibernia Colliery was situated in the Ruhr Valley, in Prussia, and the seams there lay at a very great angle, and are much distorted. The Inspectors of Mines in Prussia had desired the proprietors of this colliery to drive an extensive level stone drift from the extreme side of the workings, so as to carry the return air into the shaft at its level, in place of bringing it down to the level of the intake of the upcast shaft. His (the President's) opinion had been taken professionally, and it entirely concurred with Mr. Atkinson's, whose valuable calculations would be laid before the Prussian authorities. It should be borne in mind that that on the Continent the minerals all belonged to the Government, and the Inspectors of Mines thus acted as lessees' agents, and took cognizance of the methods of laying out and working the collieries, as well as of their safety.

COAL-CUTTING MACHINE.—The discussion on the paper "On Messrs. Donnethorpe, Firth, and Hedley's Coal-cutting Machine," by Messrs. John Daglish and Lindsay Wood, then followed. The President stated that this mode of working coal deserved attention and investigation; he hoped that some of the coalowners in this district would take the matter in hand.—Mr. ATKINSON, Inspector of Mines, alluded to the very brilliant sparks given off by this machine, when the pick came in contact with the iron pyrites; this should be investigated.

VENTILATION OF UNDERGROUND BOILERS.—A paper on this subject, by William Armstrong and John Daglish, was then read, of which the following is an abstract:—In a previous paper the subject of supplying "ventilating furnaces" with intake instead of return air was brought before the Institute, and instances were given where its application had been attended with marked success. Under certain circumstances, however, where high shaft velocity obtains, there are objections to its universal introduction. These objections, however, do not apply to underground boilers; their fires must be supplied with air of a higher relative density, in order to obtain a powerful draught. Numerous experiments prove that, under the ordinary application, nearly 10,000 cubic feet of intake air are required for the efficient supply and ventilation of each boiler, distributed as follows:—2000 cubic feet below and through the fire, 1000 through the apertures of the fire-door, 1000 through the coolers on either side of the boiler, and 5000 through the boiler-house. Of these, only the first 2000 are absolutely required at the higher density, for the purpose of inducing rapid combustion. The writers advocate placing the boiler in the return, and allowing the return current free access over and around the boiler and coolers, and confining a current of intake air by means of pipes entering below the fire, where its higher density would be required. This method is now in successful operation. In some of the larger and deeper mines, in which as many as five boilers are employed, the saving of even 5000 cubic feet per minute per boiler would be attended with most beneficial results to the ventilating current of the mine.

ATLAS MINING AND SMELTING COMPANY.—A special report upon this mine by Capt. Charles Thomas, of Dolcoath, dated March 26, is published amongst our Mining Correspondence, together with the report of Captain Warren, who states that the lodes appear to improve in value in the eastern end, where some solid tin has been discovered in a vugh.

COST-BOOK MINES, AND ADVENTURERS' LIABILITIES.—A case, which affords another instance of the danger which capitalists incur in connecting themselves with cost-book mining companies, from the fact that every adventurer in a cost-book mine is individually responsible for every debt that may be contracted on behalf of the mine, was heard at the Bristol Assizes, on Tuesday. Mr. Thomas Martin, a merchant, of Wadebridge, sued Mr. Thomas Gray, colonial broker, of London, as a partner in the Messer Mine, for goods supplied to the mine. Mr. Collier, Q.C., in stating the case, said that the plaintiff supplied goods, from the orders of Capt. Rich, the manager of the mine, to the extent of more than 2000*l.*, chiefly coals and things absolutely necessary to work the mine; all of them were used in the mine, and helped to realise such gains as were obtained. A fair quantity of ore was raised, and the mine paid its way for some time, but not altogether. The plaintiff, acting as a prudent man, never would have supplied the goods but for Mr. Gray's visit to the mine and the interest he took in it. This was not a limited liability concern, or a joint-stock company, but a private partnership, in which each partner was liable for the debts of the company, and could recover a contribution from the other partners. Mr. Gray was sued because he was the only substantial man in the concern, those associated with him being merely men of straw. Capt. Rich, the captain of the mine, was the principal witness against the adventurer. The defence was that Mr. Gray had advanced money to Greg, a shareholder in the mine, and had gone to see it, as he had an option to become a shareholder, but did not do so. Mr. Gray stated that the whole of his advances amounted to 1000*l.*, not one farthing of which has yet been returned. Mr. Greg stated that he had received the money from Mr. Gray as loans, and contradicted some of the statements of Capt. Rich. Mr. M. Smith, Q.C., having summed up the evidence for the defence, Mr. Collier, for the plaintiff, replied upon the whole case. He said that this was a case of the greatest importance, as it was an endeavour to put forth an optional partnership—if the mine was successful Mr. Gray was to be partner, but if it was not then Mr. Gray had nothing to do with it. If such an optional partnership was to be tolerated, there would be a complete change in commercial affairs. The learned Judge (Mr. Justice Ryles) then summed up the whole case to the jury. He said the sum claimed amounted to 2000*l.*, 15*s.* 4*d.*, without interest. This was a case of very great importance to the parties, and he might almost say, to the public. It was a case of considerable importance to the plaintiff, because he had unquestionably supplied these goods, and it did not seem, so far as could be collected, that he was likely to be paid in any other way. It was of great importance to the defendant, because he had derived no profit, but a very great loss, from his connection with the mine to which those goods were supplied, and very intelligible hints had been thrown out in the course of this enquiry that this was but the precursor of many other like demands upon him. He was sure this case had received their most attentive consideration. They had had the advantage, and he had had the advantage, of hearing this matter discussed by very able counsel, who were just as able as any men in England to dissect evidence, and to show how the various parts of it bore one upon the other. Partly for that reason, and partly owing to the great pressure of business, his address to them would be very short. He would not trouble them with many observations on the conflict of evidence, but would content himself with telling them the questions for their determination, and make one or two observations on the leading and salient points of the case. After carefully going through the evidence, his Lordship told the jury that if they thought the defendant Gray had stipulated, when he made either of the three advances, that he should have a share in the profits of the mine he was liable; and if he did not so stipulate, yet held himself out to the world and the plaintiff as a partner, and if plaintiff trusted him, he was liable. If, on the other hand, they were of opinion that he had no interest in the mine except the option of taking shares in it, and that he never had these shares or anything at all to do with them, but was a mere creditor, and nothing more, they would find for the defendant, as they also would if they thought the goods were not supplied on the credit of the defendant, and not of the machinery. The jury gave a verdict for the plaintiff for 2061*l.* 13*s.* 4*d.*, without interest.

LIABILITY OF SHAREHOLDERS.—In Re the State Fire Insurance Company, before Vice-Chancellor Wood, the shareholders of a joint-stock company, incorporated under 7 and 8 Viet., c. 110, were held to be individually liable on bills of exchange drawn by their duly appointed agent, though the Deed of Settlement contained a proviso that bills drawn or accepted on behalf of the company should not affect shareholders beyond their shares in the capital. It was also held that, notwithstanding 5 and 6 Viet., c. 110, s. 45, a joint-stock company may, by deed, manual, and signed by two directors, appoint an agent to draw and accept bills on its behalf.

With this week's Journal we give a SUPPLEMENTAL SHEET, in which appears a Paper on the Coal Mines Inspection Act, and its Working: the Government Inspectors' Difficulties—the Coal Trade of New South Wales—the London Association of Foremen Engineers—the Association for the Prevention of Steam-Boiler Explosions—Copper Mining on Lake Superior—the North Pool Mining District, &c.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, April 10, 1863.

COPPER.		£ s. d.
Best selected.....	92 0 0	—
Tough cake.....	89 0 0	—
File.....	89 0 0	—
Burra Burra.....	94 0 0-95 0 0	
Copper wire.....	0 1 0½	—
Copper tubes.....	0 1 0	—
Sheeting & bolts p. ton	96 0 0	—
Bottoms.....	101 0 0	—
Old (Exchange).....	82 0 0	—
IRON.		Per Ton.
Bars, Welsh, in London.....	6 5 0-6 10 0	
Ditto, to arrive.....	6 5 0	—
Nail rods.....	7 0 0	—
St. Stafford, in London.....	7 10 0	—
Bars, ditto.....	7 5 0-8 0 0	
Hoops, ditto.....	8 7 0-8 10 0	
Sheets, single.....	9 5 0-9 15 0	
Fig. No. 1, in Wales.....	4 10 0-4 0 0	
Refined metal, ditto.....	4 0 0-5 0 0	
Bars, common, ditto.....	6 10 0-5 15 0	
Ditto, merchant, in Tees.....	6 10 0	—
Ditto, railway, in Wales.....	5 12 6	—
Ditto, Swed. in London.....	11 15 0-12 10 0	
To arrive.....	11 15 0-12 10 0	
Fig. No. 1, in Clyde.....	2 14 6-3 0 0	
Ditto, f.o.b. in Tees.....	2 8 0-2 10 0	
Ditto, forge, f.o.b. in Tees.....	2 5 0	—
Staffordshire Forge Fig.....	—	—
LEAD.		Per Ton.
English Pig, ordy. soft.....	20 15 0-21 5 0	
Ditto (WB).....	23 0 0	—
Ditto sheet.....	21 10 0	—
Ditto red lead.....	21 10 0-21 15 0	
Ditto white.....	26 0 0-27 0 0	
Ditto patent shot.....	23 15 0-24 0 0	
Spanish.....	20 0 0-20 10 0	

At the works, 1*s.* to 1*s.* 6*d.* per box less.

REMARKS.—Our market continues dull, there being only a limited amount of business doing, and nothing like a speculative feeling evinced at the present time in any metal. Some of the existing flatness may be attributed to the Easter holidays, and next week we may hope to see orders flow in more rapidly, at any rate for home consumption. Accounts from India by the last mail are rather more cheering, and if shippers would but supply these markets steadily and regularly, instead of every now and then flooding them, as of late years, no doubt remunerative prices would rule then continuously. From the continent both of Europe and America the demand has somewhat slackened.

COPPER.—English manufactured is rather more in request; the market remains firm, at fixed prices. Cake, tile, and ingot quiet, but steady, at quotations. The improved reports by the late Bombay mail have strengthened the market to full rates, the tendency having been of late almost unperceptibly drooping. We hear of no sellers now under price. Foreign is easy, at former quotations. Burra Burra, 94*l.* 10*s.*; Kapunda, 95*l.*; Chili, 81*l.*; Spanish, 80*l.*

YELLOW METAL.—Large shipments continue to be made in this description of metal, which is getting more and more into use every year; but the large number of manufacturers precludes the possibility of adhering to fixed rates. Sheathing, 84; sheets, 74*d.* to 74*d.*

IRON.—Railway bars unaltered, either in price or position. Merchant bars are in very slight request; ironmasters are, however, disinclined to make lower quotations; 5*l.* 10*s.* at works, and 6*l.* 5*s.* f.o.b. here. Makers of Staffordshire of first qualities are in full work, and easily realise quoted rates. Inferior makes are less saleable. At the late quarterly meeting it was agreed not to make any alteration in present prices. Swedish bars remarkably dull; stocks comparatively nil; doubtless when the demand revives much higher rates will ensue. Scotch pigs quiet, at 50*s.* 10*d.* to 51*s.*; market closing rather better, 51*s.* 3*d.*, mixed numbers.

SPELTER.—Market exceedingly inanimate; sellers at 18*l.*; buyers very difficult to meet with, and not above 17*l.* 10*s.* in warehouse.

LEAD.—English pig, ordinary soft quality, easily purchasable at 20*l.* 15*s.*; demand very limited. WB brand, on account of the difficulty of replacing it, commands 23*l.*. Sheets more enquired for; other kinds quiet. Spanish pig, 20*l.* 5*s.*

TIN.—No alteration is now expected in English, as foreign has again lapsed into quietude. Fine Straits, sellers at 122*l.* to 123*l.*; Banca, 125*l.* to 126*l.*

BOSTON, MARCH 23.—Pictou and Sydney Coal continues quiet, and prices are nominal. Anthracite is still held principally at \$9 per ton for retail lots, but the tendency is downward. Scotch pig-iron is held quite firm; there have been small sales at \$14 to \$15 per ton cash for Gartsherrie and other brands No. 1; and American pig at \$42 per ton cash for No. 1. Bar and sheet-iron remain steady, and have been selling in lots as wanted by the trade.

The MINING SHARE MARKET has been particularly heavy this week, and in the absence of business many shares have seriously declined in value, while, on the other hand, a few, in which shares had been heavily "beared," have advanced in the face of less favourable reports, fully proving what we have repeatedly called attention to, that in the present state of the market it is not always the condition of mines that regulates the price. When shares are in favour with the public, and purchases have been made, they are often singled out for objects of attack and for large "bearing" transactions; and, on the other hand, a demand is often created and prices put up by "buying in," to make good the shares sold and not delivered by the "bears." In a few mines this week, such as East Caradon, East Basset, Roskear, Roskearnowth, Pendean, South Caradon, Glasgow Consols, Trelawny, Mary Ann, Wheel Crebor, Tincroft, Great Fortune, Calvadnack, North Treskerby, and others, a fair amount of business was transacted early in the week, but prices gave way in some of them towards the close. East Basset shares have been in good demand, and have advanced to 86, 87; the lode, we understand, is worth 80*l.* per fm., and a fine lode. Copper Hill shares have also been more enquired for, at 82*l.* to 87*l.*. Calvadnack, 9 to 9*l.*. Basset and Grylls, 26 to 27; at the meeting a dividend of 17 per share was declared. East Caradon shares, after declining to 41, sellers, rose on Friday, and left off 42 to 42*l.*; at the meeting, held at Salisbury, a dividend of 17*s.* 6*d.* per share (5376*l.*) was declared, and after paying 600*l.* on account of the new leases, 1797*l.* 7*s.* 4*d.* was carried to credit of next account. The returns for the three months realised 9025*l.* 12*s.* 5*d.*; current costs, including dues, 3343*l.* 17*s.* 10*d.*; profit, 5681*l.* 14*s.* 7*d.*. The report states the 70 east, on the caunter lode, is worth 55*l.* per fm.; west, 15*l.* per fm.; the 60 east, in the present end, 15*l.* per fm.; about 10 fms. behind this end another part of the lode has been discovered, worth 20*l.* per fm., and likely to improve. The extreme end is not so far east as the rich lode gone down below the 50. The 50 east is worth 55*l.* per fm.; the new lode, in the 70 east, is worth 25*l.* per fathom; the 70 west, 8*l.* per fathom. The drop in the standard of copper, the report states, has considerably reduced the profits, or the usual dividend would have been paid. At the meeting it was also determined that the mine should again be open to weekly inspections. On Friday a telegram was received that the branch in the 60 east was worth 30*l.* per fathom; the western end, in the 70, 20*l.* per fathom; and upon this shares rose from 41 to 42*l.*. Marke Valley, 8 to 8*l.*; a dividend of 2*s.* per share was declared at the meeting; the profit on the three months was 810*l.* 7*s.* 3*d.*. No material change in the mine. Carn Camborne, 18*s.* 6*d.* to 19*s.* 6*d.*; at the meeting a call of 1*s.* 6*d.* per share was made. West Rose Down, 12; a call of 15*s.* per share was made. Tincroft shares have remained quiet, and flatter, at 21 to 22; the directors have forwarded a circular to the shareholders, informing them that the profits of the last year were 4881*l.* 12*s.* 6*d.*, out of which 4417*l.* 10*s.* was paid in dividends, and 450*l.* invested, leaving a balance of unappropriated profit of 14*l.* 2*s.* 6*d.*; they also remark that the dividend declared in April last was paid out of working capital; and as it must have been declared by the directors themselves, their self-imposed condemnation sounds rather strange at the present moment. Cook's Kitchen shares flat at 26*l.* to 27*l.*; we understand the tin taken away from the Tincroft boundary, instead of 500*l.*, as supposed, is likely to be worth considerably more, and affects the price of these shares, as well as the dividends which were promised for the year. Those boundary

questions are becoming very serious, and it is time that more care should be observed in marking out well-defined limits at surface, and in observing them underground. Clifford Amalgamated, 20 to 22. Wheel Basset, 65 to 70; at the meeting, held on Tuesday, no dividend was declared; the profit on two months was 183*l.* 4*s.* 6*d.*, and a balance in hand of 996*l.* 1*s.* 9*d.*. The mine is poor for copper, and a little improved for tin. At the 75 a cross-cut is expected to cut the carbona, the branches of which are producing good stones of copper and tin in about 5 fathoms driving. Devon Great Consols, 505 to 525; East Chiverton, 5 to 5*l.*. Condurrow shares seem firmer, at 110 to 120; the mine made a profit of 729*l.* 12*s.* 6*d.*, in four months, and reduced the debt to 981*l.* 7*s.* 2*d.*; and had a call been made when we recommended it, many months ago, the mine would now be in a dividend state, with greatly improving prospects. Gardina, 3*l.* to 4*l.*; Grambler and St. Aubyn, 14 to 16; Great South Tolgus, 5*l.* to 5*l.*; Great Wheel Fortune, 36 to 37; Illogan Consols, 1*l.* to 1*l.*; Kelly Bray, 1*l.* to 1*l.*; Nangiles, 9*l.* to 10*l.*; North Basset, 4*l.* to 4*l.*. Roskearnowth shares advanced to 16, and in good demand, but afterwards declined, and leave off 13*l.* to 14*l.*; it has been asked, and with some degree of force, how, with the prospect of cutting the main lode of Roskear 70 fms. deep in a few fathoms driving, the North Roskear people gave up the sett, or consented to divide it; and the answer is, first, that the company were fully occupied, and had enough to do with the operations at Pearce's shaft and at the tin mine; and that in consenting to divide it, for the purpose of having Roskearnowth—which contains a large additional grant of sett—energetically worked, they had the sole right to the shares which were allotted to them, *pro rata*, without any cost; though, at the same time, it must also be observed that, on being separated, Roskear shares became lower in price by nearly 15*l.* per share, so that by selling one at 39*l.*, and the other at 15*l.*, it is only 54*l.*, or less than Roskear commanded by itself a short time ago. The fall from 16 was owing, we understand, to heavy "bearing" transactions, and a reaction may take place before the settling is over. North Crofty, 5 to 5*l.*; at the meeting a call of 2*s.* per share was made. East Seton, 8*s.* to 10*s.*, and a call of 1*s.* per share was made.

North Roskear shares have been firmer, and leave off 39 to 40; the eastern winze, below the 184, is worth 15*l.* per fathom. Pearce's shaft is worth 150*l.* per fm. for the length of shaft; the 194 west contains good stones of ore. Wheel Harriett shares have been firm, owing to the number of shares which have had to be bought in against the "bears," who had largely oversold themselves; they leave off 34 to 35*l.*. The lode in the winze below the 115 is worth 10*l.* per fm.; the stopes, 30*l.* per fm.; Alexander's shaft, 8*l.* per fm.; the 12 east, 12*l.* per fm.; the stopes, 8*l.* per fm. Wheel Crebor shares are in good demand, and leave off 31*s.* to 32*s.*; the agents write on the 9th—"We are now taking down the lode in Cock's shaft, and so far as it can be seen, it maintains its size and quality, worth full 6 tons of copper ore per fm." North Buller, 4 to 5; a good improvement has been met with in the 78, driving west on Cljah lode, which is from 5 to 6 ft. wide, producing fine stones of tin and copper, and the lode presents favourable indications for a good course of ore. Wheel Kitty (St. Agnes), 4*l.* to 4*l.*, and in demand. East Rosewarne, 3*l.* to 4*l.*; the lode in Hallett's shaft, below the 65, is worth 18*l.* per fathom. St. Day United, 13*s.* to 15*s.*; Opie's shaft, sinking below the 164, is worth 40*l.* per fm. Billing's, 50*l.* per fm.; the 164 west, 20*l.* per fm.; No. 1 winze, 20*l.* per fm.; No. 2, 35*l.* per fm. Gawton Copper, 11*s.* to 13*s.*; the 36 end is improved to 3 tons per fm.; No. 1 stope, 8 to 10 tons per fm.; No. 2 stope, 6 to 8 tons. North Phoenix, 4*l.* to 5*l.*. North Treskerby, 3*l.* to 4*l.*; at the meeting a dividend of 1*s.* 6*d.* per share was declared, and the mine, we hear, improved in the 77. Providence Mines, 42 to 43; South Basset, 7 to 8; South Caradon, 39*s.* to 40*s.*; South Frances, 87*l.* to 92*l.*. Stray Park shares better, at 37*l.* to 38*l.*. Trumpet Consols, 11 to 12; Wendron Consols, 16 to 17; Wheel Buller, 60 to 62*l.*; Wheel Grylls, 30 to 32; Wheel Kitty (Lelant), 8 to 8*l.*; Wheel Margaret, 36 to 38. Ladcott shares have been flat, and more freely offered, and leave off 54 to 55*l.*; at the meeting a dividend of 2*s.* 6*d.* per share was declared. The statement of accounts not having reached us, we cannot this week refer to them, although different reports are in circulation as to the real state of the finances, &c. Wheel Mary Ann, 15*l.* to 16*l.*; Wheel Trelawny, 16*l.* to 17*l.*; Wheel Seton, 252 to 255. Wheel Union, 5 to 5*l.*; the lode in the winze sinking below the 20, is yielding 1 ton of copper ore per fm. Merilyn, 5*s.* to 6*s.*; at the meeting a call of 6*d.* per share was made, the liabilities over assets being 64*l.* 3*s.* 1*d.*. The lead sold in the two months, realised 135*l.*. East Carn Brea, 8*l.* to 9*l.*; the 60 west is worth 1 ton per fm.; the winze below the 50, 1 ton; the stopes in back, 3 tons. Wheel Wrey, 6*l.* to 7*l.*; Pendean, 7*l.* to 7*l.*; the 130 has improved to 35*l.* per fm. In the 118, 25 fathoms of ground were gone over, worth 50*l.* per fm.; a winze below this level has been sunk, worth 90*l.* per fm.; the 130 has improved to 35*l.*; the 142 is getting into the run of ore ground, and a few fathoms further sinking the lode will be in the shaft; so that, altogether, the mine is assuming a very important position, and one likely to make large profits before long. Drake Walls shares firmer, at 1*l.* to 2*l.*; the mine is improving; in the 70 cross-cut north it is thought the lode is near at hand. In West Drake Walls part of the sett, near the Prince of Wales, good stones of tin have been found in shodding.

Prosper United shares, owing to the heavy calls, are at a mere nominal price, but the reports show that the mine is improving, and the returns will increase. The tin sold on the 3d for 576*l.* 15*s.*; the copper estimated to fetch 530*l.*, or 1000*l.* produce for the month, against 1400*l.* cost, including bills. Price of Wales, 9*s.* to 10*s.*; Wheel Polmear, 22 to 23; South Carn Brea, 4 to 4*l.*; Wheel Uny, 6*l.* to 7*l.*

The Aberdovey Silver-Lead Mining Company is about to be registered under the Companies Act, 1862, with unlimited liability, in order to raise additional capital. The company will consist of 5000 shares, of 2*l.* each, 3500 of which will be allotted to the existing shareholders for the transfer of their interest, and the remaining 1500 will be issued to the public. Capts. Aaron Ede and S. Trevelyan, sen., have reported favourably upon the mine.

Among the most important of the new projects which have been introduced to the public during this week is the Cambrian Stone and Slab Company, which has for its object the efficient and systematic development of an extensive stone quarry situated at about two miles from Port Madoc, Carnarvon. The position of the quarry offers unusually advantageous facilities for working, inasmuch as it forms, as it were, the face of an almost perpendicular mountain ridge, which is immediately contiguous to a highway between Port Madoc and Carnarvon. Mr. G. L. Fuller, C.E., an eminent slate engineer, gives it as his opinion that the small outlay of between 2000*l.* and 3000*l.* will be ample, not only to provide the property with all the necessary machinery at the outset, but also sufficient to open out the quarry to such an extent as to bring it into a remunerative state. Mr. Ellis Williams (agent of the Gilgwyn Slate Quarries) states that the property contains two different veins. The higher one is a slab vein of a white grey, and of about 20 yards in thickness. The slabs are stated to be of the best quality. In the other, or slate vein, a tunnel of about 30 yards has been driven, which has proved a thickness of about 10 yards. In addition to these veins, the property contains copper lodes, which have been to some extent worked, and fair samples of ore produced. The company is to be divided into 2000 shares, of 10*l.* each, of which only 1000 shares will be at first issued. It may be mentioned that no bonus is paid in any way for promotion expenses, and the sum to be paid for the estate includes all preliminary expenses. The property is held under lease for a term of 22 years unexpired, under a landlord's royalty of 1-14th, and a further reserved royalty of 1-20th, payable after and during such times only as the returns in any one year exceed 4000*l.*

On the Stock Exchange, there has been a steady demand for Mining Shares during the week. The following quotations were officially recorded in British Mining Shares:—East Basset, 81, 86*l.*; East Caradon, 43*l.*, 42*l.*, 43*l.*, 42*l.*; Wheel Ludcott, 6*l.*; East Wheel Russell, 4*l.*, 4*l.*; North Roskear, 39*l.*; Roskearnowth, 15*l.*, 15*l.*, 13*l.*, 13*l.*; South Caradon, 400*l.*; Tincroft, 22*l.*; Wheel Seton, 251, 248*l.*; Drake Walls, 1*l.* In Colonial Mining Shares the prices were:—Cape Copper, 3*l.*, 3*l.*; Yadanamutana, 4, 4*l.*, 4, 4*l.*; Dun Mountain, 1*l.*; Kapunda, 1*l.*; Port Phillip, 1*l.*; General, 21, 21*l.*. In Foreign Mining Shares the prices were:—Don Pedro, 1, 1; Fortuna, 5*l.*, 5*l.*, 5*l.*; United Mexican, 6*l.*, 6*l.*, 6*l.*, 6*l.*; Santa Barbara, 4, 4; St. John del Rey, 56*l.*, 56*l.*, 56*l.*

IRISH MINE SHARE MARKET.—The festive season just past has been a check to speculative operations on our Exchange, and the few transactions which have taken place in any securities have produced no noticeable change in the quotations of the previous week. For shares in Carysfort and Connorrore Mines offers were made at last rates, but refused. For Wicklow Copper Mining Company's shares (5*l.* paid) 41*l.*, as a further advance of 20*s.* per share was asked, but no business was done; holders,

nevertheless, firm. Mining Company of Ireland shares changed hands at 197. 17s. 6d. to 200. (71. paid). It is remarkable that, although a report has been circulated that a good course of copper ore has been cut at Carbery (Guatavall) Mine, county Cork, there is still no demand for shares, which, therefore, remain at the old official quotation of 9s. (10s. paid). The improvements which we noticed in the Journal of March 21, in Balintemple Lead Mines (county Wicklow), part of the property of the Caryston Mining Company, have since been confirmed by the company's mining engineer, Capt. W. Roberts, who visited it a few days ago. We have it on practical, and, therefore, on reliable authority, that this mine promises well for the future, and will thus prove the fallacy of the opinions expressed by men going about the country "captainising," without proper qualification for such a task, and have, before Capt. Hodge took charge of the mine, declared "Ballintemple was not worth a pound of candles!" In addition to the improvements which we noticed before, the stopes in the back of the 20 are producing from 12 to 15 cwt. of silver-lead ore per fathom. Other parts of the extensive property of this company are also progressing favourably, but being mostly "dead work," as drivings for the purpose of intersecting promising lodes, fully justifying the outlay bestowed upon them, it will take some time before satisfactory results can be expected. Several mining companies are ready to commence operations for the production of gold, or to increase those already undertaken; but they are waiting the issue of the experiments now being made in Wales by the various methods so strongly recommended by some, and equally forcibly condemned by others. When it is cleared up, if ever it will be, which is the most efficacious and cheapest method of extracting gold from quartz or alluvial deposits, we may expect results in Ireland far surpassing those yet attained in any mine in Wales.

COAL MARKET.—On Monday, only 46 ships having arrived, the supply of first-class house coal was trifling, and prices rose 6d. per ton; seconds without material variation. Hartley's were in demand, at an advance of 6d. per ton; in manufacturers' no alteration. Best house coal, 16s. 6d. to 17s.; seconds, 14s. to 15s.; Hartley's, 13s. 9d. to 14s. 9d.; manufacturers', 11s. 6d. to 14s. per ton. On Wednesday, 47 ships arrived; there was an improved demand for all descriptions of household coal, and prices quote an advance of from 3d. to 6d. per ton; Hartley's were also 3d. higher; manufacturers' quiet at last prices. Best house coal, 16s. 6d. to 17s. 3d.; seconds, 14s. to 15s. 6d.; Hartley's, 14s. to 15s.; manufacturers', 11s. 6d. to 14s. per ton. On Friday there were 52 arrivals; the market for house coal was quiet, at fully last day's prices. Hartley's declined 3d. per ton; manufacturers' without alteration. Hetton Wallsend, 17s. 6d.; South Hetton Wallsend, 17s. 3d.; Lambton Wallsend, 16s. 9d.; Tees Wallsend, 16s. 9d.; Eden Main, 14s. 6d.; Kipper Grange Wallsend, 14s. 6d.; Gosforth Wallsend, 14s.; Davidson's West Hartley, 14s. 9d.; West Hartley, 14s. 9d.; Tanfield Moor, 12s.; Bute's Tanfield Moor, 12s.; 30 cargoes unsold; 35 ships at sea.

During March the supply of coal to the metropolis by rail, seaborne, and canal was 446,451 tons 4 cwt., against 395,910 tons 15 cwt. for the same month of 1862, or an increase of 50,540 tons 9 cwt. In the three months ending March the railways brought 447,861 tons 8 cwt. against 359,154 tons 15 cwt. for the first quarter of 1862, or an increase of 88,706 tons 15 cwt. By sea the tonnage has, in the same period, increased from 837,108 tons in 1862 to 887,727 tons in this year, or an advance of upwards of 50,000 tons. The canals have fallen off from 3359 tons 15 cwt. in 1862 to 2432 tons 15 cwt. in 1863, or a diminution of 927 tons.

BRISTOL COAL TRADE.—The overseas exports of coal at Bristol during the month of March only amounted to 385 tons—85 tons for Demerara, and 300 tons for Barbadoes. Compared with the preceding month (Feb.), there is a falling off of 92 tons in the exports; and compared with the corresponding month last year, when 719 tons were shipped, there is a decrease of 334 tons. The total exports for the present year amount to 1610 tons.

At Redruth Ticketing, on Thursday, 1875 tons of ore were sold, realising 9210l. 1s. 6d. The particulars of sale were:—Average standard, 116l. 15s.; average produce, 64; average price per ton, 4l. 19s. 6d.; quantity of fine copper, 123 tons 2 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore copper.
Mar. 12	2549	116 11 0	65	4 18 6	74 14 6
" 19	3710	119 4 0	65	4 6 0	72 15 0
" 26	3271	118 11 0	65	5 1 0	74 6 0
April 2	3251	116 12 0	65	5 1 0	75 10 0
" 9	1875	116 15 0	65	4 19 6	74 17 0

Compared with last week's sale, the standard is about stationary, the tendency being downward. Compared with the corresponding sale of last month the standard is also stationary.

At the Wheal Basset and Grylls meeting, on April 2, the accounts for the quarter, ending with costs for January, showed a credit balance of 1532l. 9s. 6d. A dividend of 1000l. (1l. per share) was declared, leaving a balance of 532l. 9s. 6d. to be carried forward to credit of the next account. It was resolved that a suitable counting-house should be erected, under the direction of the committee, who would receive tenders, and accept such as they might think proper. A donation of two guineas to the Mining Institute of Cornwall was agreed upon, and a like sum to the West of England National School. The agents reported that the tribute department was not so good as when last reported; but the stopes east of Tyacke's and Wilkin's were calculated to make up the deficiency. The total number of hands employed was 330.

At East Caradon Mine meeting, on Wednesday (Mr. Childs in the chair), it was stated that the fall in the standard for copper had prevented the committee recommending upon the present occasion a larger dividend than 17s. 6d. per share. The profits for the three months amounted to 5679l. 14s. 7d.; and after deducting the dividend of 17s. 6d. per share, there would be carried forward 3032l. to the credit of profit and loss. There had been charged on account of the lease 600l., after deducting which the total amount carried forward was 1797l. 7s. 4d. Capt. Secombe stated that the reserves during the past quarter had been increased by 12,000l. to 15,000l. The accounts and report were received and adopted. A lengthy discussion thereupon ensued as to the propriety of altering the inspection days from once a month to once a week. Mr. Peter Watson said that Capt. Secombe clearly understood there was nothing like an imputation either upon his integrity or upon the judgment he had displayed in the management of the mine in proposing an alteration of the inspection days. He (Mr. Watson) had recommended at the last meeting that Capt. Secombe should send a weekly report to London, which should comprise a full account of the mine, and the propriety of the adoption of that suggestion was evident. Capt. Secombe, in answer to a question, stated that the new branch of ore which had been cut was gradually improving, being worth 20l. per fathom. A dividend of 17s. 6d. per share was declared, and a resolution passed recommending that carried at the last meeting, and altering the days of inspection from once a month to once a week.

At Cwm Erfin Mine meeting, on April 4, the directors declared a dividend of 43s. 10s. (10s. per share).

At Wheal Ludecott and Wrey Consols meeting on Thursday (Mr. J. C. Lucas in the chair), the accounts showed a profit on the three months' working ending January of 1556l. 2s. 2d. A dividend of 2s. 6d. per share was declared. Details in another column.

At the Marke Valley Mine meeting, on Wednesday, the accounts for the three months showed a profit of 810l. 7s. 3d. The assets exceeded the liabilities by 212l. 13s. 4d. A dividend of 2s. per share was declared.

At North Trekerby Mine meeting, on Tuesday, the accounts for Jan. and Feb. showed a balance—Balance last audit, 1001l. 13s.; copper ore and tin stuff sold, 2073l. 3s. 9d.—3074l. 16s. 9d.—Mine cost, merchants' bills, and sundries, 1700l. 15s. 5d. Feb. dividend, 445l. 4s.; leaving credit balance, 928l. 14s. 4d. The profit on the two months' working was 372l. 5s. 4d. A dividend of 45s. 4s. (1s. 6d. per share) was declared, and 483l. 4s. 10d. carried to credit of the next account. Capt. Pryor, Kitto, and Trenging reported upon the various points of operation. The tribute pitches throughout the mine were looking well, and from the favourable change that the lode had undergone in the bottom of the mine they consider that their prospects are very encouraging.

At the Billins Lead Mine meeting, yesterday (Mr. Tuthill in the chair), the accounts for the three months, ending with the costs for March, showed a debit balance of 807l. 10s. 11d. A call of 2l. per share was made, and it was agreed to create 200 new shares of 30l. each, to be issued at 15l., of which 5l. is to be paid forthwith, and the remainder by such calls as the engine commenced to work they would begin to sink the shaft, the result of which, there was very little doubt, would be attended with success. It was probable they would have to sink 15 or 20 fms. previous to driving the levels, but the ground was easy, and no doubt good speed would be made after the engine went to work. All the expenses would be confined to this single bargain, and such time as was thought the engine shaft deep enough for laying open the vein east and west by means of levels. The general belief was that success will follow this, and judging from appearances, he thought it would. The committee of management were re-elected.

At Garreg Mine meeting, on Tuesday (Mr. John Hutton in the chair), the accounts showed a debit balance of 67l. 14s. 6d., and a balance of liabilities over assets of 231l. 0s. 8d. A call of 2s. per share was made. Capt. Sandoe's report was of a favourable character.

At Michell Mine meeting, on Tuesday (Mr. H. B. Jones in the chair), the accounts for the three months ending Feb. showed a credit balance of 2l. 10s. 6d., and a balance of liabilities over assets of 221l. 12s. 4d. A call of 2s. per share was made. Capt. Sandoe, in reporting upon the mine, states that he has no doubt whatever of it becoming by-and-by a valuable and lasting mine.

At the North Crofty Mine meeting, on Wednesday (Mr. A. Paul in the chair), a call of 2s. per share was made. The Chairman said there was reason to hope that ere long North Crofty would favourably compare with some of the best mines in the Camborne district. Mr. G. Ratten, who had been one of the best of opinion as to the future. He represented a large interest in the undertaking, and he must confess that he regarded it as one of the few mines that possessed a minimum amount of risk with an almost certainty of success. Captain J. Vivian stated that the mine upon the next four months' working was not at all likely to exceed 1s. per share, and from the amount of ground that was being opened out, he could see his way clear, after the next meeting, so to increase the returns as to meet the costs. The 170 was worth 25l. per fm., and opening up ground that would come away at less than 5s.

in 17. The lode was very large, and as the 170 was leaving upwards of 20 fms. of back in whole ground, some idea might be formed as to the quantity of ground that was being opened up. He considered that a rich course of tin would be found immediately under where one of the best courses of copper ore in the whole district had been taken away. In the eastern part of the mine there were 200 fms. of unexplored ground upon Reeves's lode before East Pool boundary would be reached. He looked upon that point as of very great importance, as it was expected the granite would be reached in the 160 in driving towards that boundary, seeing that in the mines in the district rich deposits of tin had been met with under similar circumstances. There was one point which had doubtless been lost sight of, but which was of importance to the future of the mine—he referred to the driving westward at the 170 on Reeves's lode. That lode was a canter, and every fathom driven brought the operations nearer other lodes, which had not been developed under the 60, and some had never been cut in the west, although the North Pool lode, which had returned vast quantities of mineral. The accounts having been passed and allowed, and the report received and adopted, a vote of thanks to the Chairman terminated the proceedings.

At East Wheal Seton meeting, on Wednesday, a call of 1s. per share was made.

At Lelant Consols Mine meeting, on March 31, the accounts showed a debit balance of 677l. 4s. 10d. A call of 1l. per share was made. Detailed reports were read, showing the position and prospects of the mine; the resident agent was instructed to forward a report monthly to the Journal.

At South Seton Mine meeting, on April 2, the accounts showed a debit balance of 618l. 12s. 6d. A call of 2l. 10s. per share was made. Capt. M. Bath and E. Higgins reported on the workings and prospects of the mine; they have charged about 150l. for boiler and pitwork, which will account for the debit being greater than on former accounts. They have now on the mine sufficient pitwork to enable them to sink the next 10 fms.

At Carn Camborne Mine meeting, on Wednesday, a call of 1s. 6d. per share was made.

At West Trevelyan Mine meeting, yesterday, the accounts, including February cost, showed a debit balance of 603l. 10s. 1d. A call of 2s. 6d. per share was made.

At Merilyn Mine meeting, on Tuesday (Mr. H. B. Jones in the chair), the accounts showed a debit balance of 3l. 9s., and a balance of liabilities over assets of 64l. 3s. 1d. A call of 6d. per share was made. Capt. W. Sandoe reported that he hoped to sink 4 or 5 tons of ore on Thursday next.

At the West Rose Down Mine meeting, on Wednesday, a call of 15s. per share was made.

At the Lutanian Mine meeting, on Thursday (Mr. Lowndes in the chair), a resolution was passed to the following effect:—"That in consequence of the non-arrival of the balance of ore raised prior to Sept. 30 last, by reason of which its value cannot be embraced in the statement of accounts, this meeting be and is hereby adjourned until Thursday, May 7."

LEADS, APRIL 9.—There has been more activity manifested in Mining Shares, with fluctuations in prices in some description of stock. At Whealriddle Mine the prospects are improving; they are raising a greater quantity of ore from the east and west levels, in Craig's dump, and the quantity improves in depth. About 10 tons of ore are already damped for smelting, which will soon be largely increased.—JOHN GLENDHILL AND CO.

THE TIN TRADE.

In our last we reported an important movement in this article. There has been a continued advance in the price of foreign throughout March, accompanied by larger transactions than we have known for some time past. The cause of the advance is still the same—diminished supplies of Straits and Banca. In addition to the large quantity absorbed by China and Japan (the total quantity we shall never probably arrive at), we have now the official declaration of the Dutch Trading Company that the production of Banca tin during 1862 was only 88,000 pekuls, against 86,000 pekuls in 1861, or a deficit of nearly 60,000 slabs, besides which there was also a considerable deficiency in the production of Billiton tin. We also have the fact that the arrivals towards the end of March, and the quantity known to be about, could not together come nearly up to that offered last year, and that is required for the ensuing year's consumption. The approaching sale is now variously estimated at from 115,000 to 120,000 slabs. Speculators have been the principal operators, for consumers, although they hold by no means large stocks, are deterred from anticipating their requirements by the position of English tin. The tactics of the smelters are not easily fathomed; they have held off from advancing the price for a long time, and now they refuse to sell. The present nominal price is comparatively considerably lower than foreign, and the general opinion is that an advance cannot long be delayed. Consumption goes on steadily, and one or two new tin-plate works will soon be in operation, which will increase the consumption of refined and foreign tin. The quantity of tin here and in Holland on March 31 was as follows, compared with the three preceding years:—

	1863.	1862.	1861.	1860.
Stock in Holland	44,090=1364.	36,066=1120.	41,454=1284.	39,655=1230
Arrived towards next sale	95,955=2976.	116,726=3580.	129,244=4010.	108,638=3350
Stock here	2580	1458	856	1300

Total tons 6920 6158 6180 5890
The quantity of Straits tin now on passage to Great Britain is 523 tons, against 652 tons last year.—ENGLISH has been in good demand, without change in price; quotations are now nominal, and smelters decline orders.—STRAITS: The business reported has been very large, and prices have advanced to 124l. cash, and 125l. for three months prompt; for distant arrival 127l. has been realised.—BANCA: A fair business has been done in spot parcels; but the great rise in Holland has restricted further business to arrive from there; our present price is 128l. 10s. to 129l. In Holland the transactions have been very large, and the price has advanced from 73l. to 77l., which is the present quotation. The official returns from Holland are as follows:—

	1863.	1862.	1861.
Stock on warrants, Feb. 28	51,740	40,401	80,954
Delivered in March	7,650	4,335	9,500

Stock on warrants, March 31 44,090 36,066 41,454
Arrived towards next sale 95,955 116,726 129,244
The arrivals of tin in London during March were as follows:—Straits, per *Parace*, 1213 slabs; ditto, per *Juventa*, 2035; Banca, from Holland, 3540=6788 slabs.

Making since Jan. 1 into London:—
1863. 1862. 1861.
Banca 11,943 1,868 716 2,130
Straits 6,674 27,162 20,649 26,567

Total 18,617 28,730 20,724 28,702

We estimate the present stock of tin in warehouse at 2650 tons. The import and export of tin during the month of January this year, compared with 1861 and 1862, has been as follows:—

	1861.	1862.	1863.
Importcwt.cwt.cwt.
Export—Foreign	2,009	3,204	403
" English	3,120	3,845	4,512

The import and export of tin during the month of February, and the first two months of this year, compared with 1861 and 1862, have been as follows:—

	1861.	1862.	1863.
Month ending Feb. 28.	1863.	1862.	1861.
Importcwt.cwt.cwt.
Export—Foreign	2,283	3,701	591
" English	4,464	8,116	5,394

No tin was exported to Great Britain or America from Singapore from Jan. 24 to Feb. 24; to Continental Europe, 350 pekuls—price 32s. From Penang, during the same period, the export has been to Great Britain, 5187 pekuls; Continental Europe and America, nil—price 32s.

The general demand has been good, and several important contracts have been taken for France. For America, coke are wanted, but charcoal is dull. The declared value of tin-plates exported during Jan. this year, compared with 1861 and 1862, has been as follows:—

	1861.	1862.	1863.
Month ended Jan. 31.	1863.	1862.	1861.
Declared value of tin-plates exported during February, and the first two months of this year, compared with 1861 and 1862, has been as follows:—	1863.	1862.	1861.
Month ended Feb. 28.	1863.	1862.	1861.
Declared value	£39,940	£38,260	£38,941
	£39,940	£38,260	£38,941

VON DADELSEN AND NORTH.

TREVENEN AND TREMENHEERE.—We have frequently drawn attention to these mines, and we are glad to find that their progress is so highly satisfactory. Since the change in the local management, about a year ago, the following have been the quarterly sales of tin:—

	1863.	1862.	1861.
June, 1862
Sept. "
Dec. "
March, 1863

During the same period the calls have amounted to a total of 4s. 6d. per share, and no less than 50 fms. of shafts have been sunk, 77 fms. of levels driven through whole ground, 132 fms. cleared, new stamps axle erected, the dressing-floor considerably enlarged and improved, and much other heavy work accomplished. Now that the bottom of the mine is reached, it is satisfactory to find the lode productive, as anticipated, while the returns have increased. The agents report "that the reserves have been increased to double the extent of ore taken away, and the mine is worth some thousands of pounds more than it was twelve months since." We believe it is fully expected that these mines will enter the Dividend List this year.

TINCROFT MINING COMPANY.—The rules and regulations of this company being about to be changed, the directors have issued a detailed financial statement, which shows that during the year ending December the receipts for ore sold from the mine amounted to 25,987l. 18s. 2d., whilst the expenditure incurred was 21,106l. 5s. 8d.—leaving a profit upon the twelve months' working of 4881l. 12s. 6d. The dividends declared during the year amounted to 4500l., and the total excess of assets over liabilities to the end of December, 1862, was 1961l. 12s. 2d. The reserve fund stands at 3330l. 12s. 2d. The directors declared a further dividend on April 2, the propriety of which we understand is questioned, some of the adventurers contending that, the company being now under the Cost-book System, the power to declare dividends rests only with the general meeting, and a general meeting of shareholders will be held on Tuesday next. On March 30 a meeting of the arbitrators in the dispute between Tincroft and Cook's Kitchen was held, for the purpose of settling the amount of damages which Cook's Kitchen should pay over to Tincroft, when Mr. Alfred Jenkin, the steward to Mr. Roberts, called upon Capt. W. Teague to put in an additional claim on Cook's Kitchen adventurers for one-half of the road which was formerly used by the inhabitants of Brea and the occupiers of the farms east and west of the said road. This claim is made on account of a deed, which came to hand during the last few days, which gives Mr. Roberts one-half of the road passing between the two estates. If this claim is sustained, it will give Tincroft adventurers from 4 to 6 l. on the length of Chappel's and Dunkin's lode, which will be of great importance to Tincroft Mine. This will enable them to go down to the 195 fm. level, and drive east from Cook's Kitchen to a rich tin lode. They are now driving the 150 fm. level east from Cook's Kitchen, in a lode 12 feet wide, and good tinny work. There being no question raised as to the validity of the deed in question, no doubt is enter-

tained that the matter will be settled without litigation, more especially as the Tincroft adventurers can well afford to come to an arrangement of a liberal character.

SALE OF MINE SHARES BY PUBLIC AUCTION.—Mr. T. P. Thomas sold by public auction at Garraway's, on Thursday, the following mine shares:—100 New Prospects at 2s.; 25 ditto, 2s. 3d.; 700 North Miners, 3s. 3d.; 600 ditto, 3s. 3d.; 600 ditto, 3s. 3d.; 2 Bryn Gwilog, 30l.; 2 East Caradon, 40l.; 2 North Roskar, 35l.; 50 Penarth, 4s.; 30 North Dolcoath, 2l. 6s.; 20 ditto, 23s.; 50 Crookhaven 3s.; 30 ditto, 6s.; 6 West Penarth, 3s.; 5 South Goriand, 1l. 10s. 6d.; 100 Bottle Hill, 5s. 3d.; 1 Wheal Seton, 250l.; 1 New Wheal Seton, 10l.; 10 East Devon Great Consols, 11s.; 40 South Caradon Wheal Hooper, 14s.; 10 ditto, 12s.; 10 Redmoor, 1s.; 10 Wheal Polard, 8s.; 60 West Trevelyan, 2s. 9d.; 55 Vale of Towy, 5s. 6d.; 25 South Condurrow, 5s. 6d.; 5 South Carn Brea, 4l.; 15 ditto, 4l. 6s.; 15 Wheal Ludecott, 6l.; 20 ditto, 6l.; 1 Great Wheal Fortune, 35l.; 5 St. Ives Wheal Allen, 2l. 17s. 6d.; 25 Wheal Arthur, 10s. 6d.; 5 West Sney Park, 35l.; 10 Creake, 6s. 6d.; 10 ditto, 3s. 6d.; 20 Caradon Hill, 1; 30 Kelly Bray, 7s.; 10 Great Retailack, 5s. 6d.; 6 North Buller, 25l.; 250 North Rhine, 3s. 6d.; 30 East Rosewarne, 3l. 7s. 6d.; 30 Cwm Cilem, 17s. 6d.; 40 Unity, 4s.; 10 Nova Scotia, 12s.; 5 Carnewas, 26s.

SALE OF MINING SHARES BY PUBLIC AUCTION.—Mr. W. Hosken Richards sold at Penance, on April 2, the following mine shares, which realised the prices annexed:—100 Roskar, 35l.; 50 Penarth, 4s.; 30 North Dolcoath, 2l. 6s.; 20 ditto, 23s.; 50 Crookhaven 3s.; 30 ditto, 6s.; 6 West Penarth, 3s.; 5 South Goriand, 1l. 10s. 6d.; 100 Bottle Hill, 5s. 3d.; 1 Wheal Seton, 250l.; 1 New Wheal Seton, 10l.; 10 East Devon Great Consols, 11s.; 40 South Caradon Wheal Hooper, 14s.; 10 ditto, 12s.; 10 Redmoor, 1s.; 10 Wheal Polard, 8s.; 60 West Trevelyan, 2s. 9d.; 55 Vale of Towy, 5s. 6d.; 25 South Condurrow, 5s. 6d.; 5 South Carn Brea, 4l.; 15 ditto, 4l. 6s.; 15 Wheal Ludecott, 6l.; 20 ditto, 6l.; 1 Great Wheal Fortune, 35l.; 5 St. Ives Wheal Allen, 2l. 17s. 6d.; 25 Wheal Arthur, 10s. 6d.; 5 West Sney Park, 35l.; 10 Creake, 6s. 6d.; 10 ditto, 3s. 6d.; 20 Caradon Hill, 1; 30 Kelly Bray, 7s.; 10 Great Retailack, 5s. 6d.; 6 North Buller, 25l.; 250 North Rhine, 3s. 6d.; 30 East Rosewarne, 3l. 7s. 6d.; 30 Cwm Cilem, 17s. 6d.; 40 Unity, 4s.; 10 Nova Scotia, 12s.; 5 Carnewas, 26s.

BLACK TIN AND LEAD ORE.—We shall next week publish our usual Quarterly Returns of Sales, and shall be glad of pursers and others interested will furnish us with the necessary information, that the particulars of each mine may appear as correctly as possible.

WANTED, for a SLATE QUARRY in the county WICKLOW, IRELAND, a THOROUGHLY QUALIFIED RESIDENT MANAGER. Testimonials and references must be of the highest order. Applicants to forward them, stating terms, addressed "Slate Quarry," No. 33, Upper Sackville-street, Dublin. Applicants need speak only English.

WANTED, in a MINING ENGINEER'S OFFICE, a YOUNG MAN, who must be a good plain and ornamental writer, and neat draughtsman. He would be required to assist in underground surveying.—Apply, by letter only, enclosing specimen of mapping, stating age, and salary required, to "Apropos," care of C. S. Barker, Esq., mineral agent, 12, Buckingham-street, Strand, London, W.C.

WANTED, by a gentleman, a SITUATION as ANALYST in an IRON or OTHER SMELTING WORKS. He has been articled to a large manufacturing chemist, and has just completed a long course of study at the Royal College of Chemistry, London.—Address, "S. T. J.," Post-office, Leamington.

WANTED, a QUANTITY of WOOD PAVEMENT.—Apply by letter, stating lowest price, to W. H. JNO. DAWES, Milton and Elsecar Ironworks, near Barnsley.

TO SPECULATORS.—The ADVERTISER, a retired mine captain of great practical experience in Cornwall, is in a POSITION to GIVE the NAMES of SIX PROGRESSIVE MINES, which are SAFE in his opinion (based on a perfect knowledge and reliable data) to ADVANCE HUNDREDS PER CENT. in a FEW MONTHS. Terms, commission on profit.—Address, "Investor," MINING JOURNAL office, 26, Fleet-street, London, E.C.

LEAD ORES.

Mines.	Tons.	Price per ton.	Purchasers.
Maceyrerwddu	69	14 0 6	Walker, Parker, & Co.
Costa Liza	78	14 0 6	ditto
Deep Level	6	11 6 0	A. Eytan.
Bryndor Hall	12	0 6	Newton, Keates, & Co.
Rosemoor	9	12 0 0	ditto
Parry's	30	12 6 0	Walker, Parker, & Co.
Bryn Gwilog	35	13 6 0	ditto
Long Rake	15	19 10 0	Newton, Keates, & Co.
Merilyn	4	9 15 0	ditto
Cwm Cilem	10	12 6 0	A. Eytan.
Helfny Level	8	14 4 0	Walker, Parker, & Co.
Helfny-Myrny	13	10 7 6	ditto
Llanymyrdan United	60	11 5 0	ditto
Llanymyrdan	12	11 5 0	ditto
Miners Union	12	12 11 0	A. Eytan.
Rosemoor	11	15 0 0	Newton, Keates, & Co.
Caeconroy	14	14 3 6	ditto

BLACK TIN

Sold on the 31st March.							
Mines.	Tons c.	q.	lbs.	Price per ton.	Amount.	Purchasers.	
Pedra-an-dren	9	1	3	22	—	£ 888 18 8	Carvedras.
Sold on the 2d April.							
Cornubia	2	4	2	1	69 10 0	154 13 4	New Blowing.
ditto	2	4	3	9	69 10 0	12 6	ditto
ditto	2	5	1	13	69 10 0	19 10 1	H. H. H. H.
ditto	0	4	1	13	61 10 0	13 8 6	Danubz & Co.
Prosper Utd.	8	12	0	2	67 0 0	576 8	O-Boltho & Sons.
Sold on the 4th April.							
Phoenix	9	2	3	0	64 0 0	584 16	O-Bissoe Co.
Sold on the 6th April.							
So. Carn Bros.	5	18	0	3	61 0 0	362 18	7-Trethellan.
ditto	5	17	2	18	61 10 0	361 16	1-Bodruth Co.
Sold on the 7th April.							
St. Day United	10	5	3	4	—	586 9 9	—

CAVITIES IN PRECIOUS STONES.—The Philosophical Magazine publishes an exceedingly interesting paper by Sir D. Brewster, on cavities in precious stones, which is well illustrated by the accompanying observable, by microscopic power, in the diamond, topaz, and beryl. Several years ago the learned author discovered in these cavities two fluids of different density. One of these, named crytolite, is fixed and oily; the other, Brewstolite, is volatile. From the several curious observations and facts recorded in that paper we extract the following:—

"In the Koh-i-noor diamond, which the Prince Consort kindly permitted me to examine in 1852, I found three black spots, scarcely visible to the eye, but which by microscope showed to be irregular cavities, surrounded with crystals. In the smaller diamonds, which I have since examined, I found that some of the cavities surrounded with luminous sectors, and the same polarizing structure indicated the operation of compressing and dilating forces. In order to obtain more information on this subject, I examined nearly 50 diamonds lent me by Messrs. Deane, Roskill, and in almost all of them I found numbers of cavities of the most singular form, round which the substance of the stone had been compressed and altered in some manner. The shape of the cavities sometimes resembled those of insects, and sometimes of stars, and patches of colour in polarized light were of the most varied character. In examining a number of diamonds, the address of which was given to me by the East India Company's Museum, I found that all these stones contained large cavities, and were coarse or flawed diamonds, which could not be cut into brilliants, or rings, or other ornaments. It seems, indeed, to be a general truth, that the

any payment whatever beyond that necessary to build the ovens and the flues above them. The necessary buildings have already been erected, as indicated above, and the fact that no patent rights have to be paid for, should alone be sufficient to induce the general adoption of the arrangement. And when to this we add that the result at the Farnley Wood Colliery has been that slack which was unsaleable as such at 1s. per ton is converted into coke worth 5s. per ton on the spot, we are bound to admit that Mr. Rogers should not be permitted to want the gratification, which is all he desires, of knowing that his invention has been universally applied, and proved to be of general utility.

FOREIGN MINING AND METALLURGY.

Another of that phalanx of eminent scientific men who have within the present century done honour to their country has departed from among us. On Easter-day, 1863, died JOHN TAYLOR, in the 84th year of his age, beloved and respected by those who remembered his great talents: his sense of justice, his liberality, and the probity which influenced him in all the concerns of life. Mr. TAYLOR was the eldest of a family of sons and daughters distinguished for their talents. He was born at Norwich on Aug. 22, 1779. In the year 1798, Mr. TAYLOR, being then only 19 years of age, and brought up as a land surveyor and civil engineer, was invited by some friends to take the management of Wheal Friendship, near Tavistock, a mine which under his care became very profitable, and the working of which is still continued. His connection with this mine was a source of much gratification to Mr. TAYLOR in after life. It was pleasant to hear him when approaching fourscore years of age discoursing on Wheal Friendship, at the annual mining dinner, in returning his thanks to the friends by whom he was surrounded. In 1803, Mr. TAYLOR projected and commenced the Tavistock Canal, of which about three miles is tunnelled through a hill of granitic and other hard rock. He evinced great skill in this work, for which he prepared himself by closely studying all the publications of Smeaton, and other great engineers of the time. The execution of this canal led to the discovery of the mines of Wheal Crowndale and Wheal Crebor, both of which produced large quantities of copper, and yielded considerable profits. The success of Wheal Friendship, and other mines in the neighbourhood of Tavistock, and afterwards of the Great Consolidated and United Mines, besides others in Cornwall and the North of England and Wales, brought Mr. TAYLOR into great repute as a mining engineer, while his solicitous care for the health and comfort of the miners made him extremely popular amongst them, a popularity which was manifested on several occasions, particularly on his leaving Tavistock for London, in the year 1812. Amongst the mines which Mr. TAYLOR had under his management at an early period were those of the Duke of Devonshire, in Staffordshire and Yorkshire; and others in Cumberland, belonging to Greenwick Hospital. He was at one time managing partner in some chemical works at Stratford, for which he was eminently qualified by his knowledge of metallurgical chemistry, which had always been one of his favourite pursuits.

In the year 1824, Mr. TAYLOR's reputation as a practical miner was at its height. It was the year after the Mexicans had thrown off the yoke of Spain, and the republic of Mexico had been acknowledged. The great work of Baron von Humboldt had been published. He had explored the New World, and he described in glowing language the mineral wealth of Mexico. The Mines of Valenciana, of Rayas, of Bolanos, and Arevalo, had given fortunes and titles to their owners; and Don Pedro Romero de Terreros had found wealth in the Real del Monte, which procured for him the title of "El Conde de Regla;" but these great mines had been abandoned during the revolution, and required capital to re-open them. England had the capital and skill; emissaries from Mexico were ready to ask for both, and they succeeded. Of all the companies then formed for working mines in Mexico, the United Mexican is the only one now in existence. The Real del Monte and Bolanos Companies, with which Mr. TAYLOR was more immediately concerned, were dissolved in 1849, after unexampled perseverance and energy in battling against difficulties which at last proved insurmountable; but subsequent events have shown that the Mexican mines were not unworthy of the reputation they had acquired; and that not only was the evidence correct upon which Mr. TAYLOR and others relied, but that a little more perseverance on the part of the companies would have produced results equalling the most sanguine expectations of former days. Strange as it may appear, almost every Mexican company formed in 1824 abandoned mines which have since become remarkably productive. In all that period of speculation, when shares rose to an enormous premium, many tempting offers were made to Mr. TAYLOR for the use of his name only; but his fine sense of honour led him to reject all such opportunities which might have placed a large fortune in his power.

such opportunities which might have placed a large fortune in his possession. If, however, unsuccessful in Mexico, the result in other countries has been very different. The risks and uncertainty of mining enterprise are recognised, or everybody would be miners; but the successful miners under Mr. TAYLOR's management more than counterbalance the failures, and the firm of JOHN TAYLOR and SONS numbers in its establishment some of the best mines of the day. Mr. TAYLOR was the author of several useful papers connected with mining. He was one of the first who proposed the formation of a Mining School, an article on which subject was printed in his "Records of Mining." He was one of the earliest Fellows of the Geological Society, having joined it in 1807. He was the treasurer, and for many years one of the vice-presidents, of that society. He was elected a Fellow of the Royal Society in the year 1825, and was one of the founders of the British Association for the Advancement of Science, of which he was the treasurer until the year 1862, when his resignation was reluctantly accepted. He was one of the Council of the London University. He was also a member of several foreign societies, and enjoyed the friendship of the late Baron von Humboldt, and many other distinguished foreigners. An excellent portrait of Mr. TAYLOR was painted by Sir Thomas Lawrence, in 1825, and afterwards engraved by Charles Turner. Another admirable portrait of him was painted in 1861 by Mr. Sydney Hodges, for the board-room in Messrs. Taylor's offices, in Queen-street-place, and presented to the firm by the *employees* of the establishment.

At the Paris Academy of Sciences, a paper was received from M. Lucien de la Rive, on the conducting power of thallium for electricity. As this new metal is slightly soluble in water, in the ratio of 1 to 500, its density had to be determined in naphtha, and turns out to be 11.853; whence its conductivity for electricity varies between 5.21 and 5.28, at a temperature of 12° centigrade (53.6 Fahr.)

ECONOMY IN COLLIERY VENTILATION.—In the *Mining Journal* of April 26, last year, we published a description of the ventilating power in use, and which had been in successful use for the previous two years, at the Farnley Wood Bottom Colliery, near Leeds, and we now learn that an additional year's experience fully confirms the favourable opinions which were entertained as to the practical value of the arrangement. At the Farnley Wood Colliery, worked by Messrs. Abraham Hood and Son, we are assured that the quantity of air circulating is ample, and may be increased to any extent at pleasure, and that the moral passed through the pit the greater is the profit. Instead of burning the fuel in the ordinary way, Mr. Rogers simply cokes it, availing himself of the heat from the ovens to dry the air, and cause a current through the workings. The ovens may be placed in any position, and may be placed at the surface or at the bottom of the shaft, the stak being necessary in the latter case. Whether the top or bottom of the shaft should be chosen, a given number of coke ovens are constructed according to the extent of the workings, each oven being enclosed in a casing, which in its turn is covered by an ordinary brickwork flue, provided the apparatus be placed at the surface; but underground the ordinary furnace drift would be applicable. The ovens, whether two or more, are charged with coal, and the coke is removed by means of a screw conveyor, and is readily maintained. By this means the ventilation is kept up in a most economical manner, the greater portion of the coal and slack used to produce it being rendered marketable as coke. By a slight modification of the arrangement actually in use at Farnley

Wood, Mr. Rogers's invention would be applicable in the most fiery pits, securing all the advantages of furnace ventilation, and at the same time preventing the possibility of the ignition of the explosive gases at the furnace. At Messrs. Rogers's colliery the supply of air to the coke ovens is drawn from the interior of the pit, but were any danger apprehended from the escape of gas, it might be necessary to carry this supply direct from the surface, and continue the openings in the coke oven, or a large pipe along the shaft or stack as shall ensure safety. In the Farnley Wood Colliery the extent of the working, to be ventilated is about two miles, through which an ample current of fresh air is produced by two coke ovens, only 6 ft. in diameter, which, with all the necessary appendages, did not exceed 70*l.*, an amount which was speedily repaid by the additional profit derived. The inventor, Mr. Abraham Rogers, is a gentleman nearly 80 years old, who has spent 30 years of his life in connection with collieries, so that it may be supposed that he has acquired considerable experience. The arrangements referred to have found to be of practically utility in theory, and being more desirous of honour than profit, he generously offers it to all who wish to try, and being the invention is not patented, and can, consequently, be applied in any colliery without

A joint-stock organisation for working nickel bearings at Cruvino has just been formed, under the title of Boulart, Boucher, and Co. The capital of this enterprise is 29,000*l.*, divided into 1450 shares, of 20*l.* each. Nickel is a scarce and dear metal, the use of which is everywhere extending. The Governments of Belgium, Italy, and Switzerland have introduced it into the composition of a portion of their coinage, and it is more especially in mixtures with copper, tin, zinc, or cobalt that it is utilised. The works which apply themselves to the treatment of this metal are not very numerous; there are some in England, one in Belgium, and several in Germany; but this branch of metallurgy has not acquired a greater development, in consequence of the absence of sufficient supplies of nickel minerals. Some workings of nickeliferous minerals exist in Germany and Italy, and it is in the latter country, that the Mine of Cruvino is situated. The Government has pronounced an opinion on a mining working, a little difficult and delicate matter, as, independently of special knowledge, a perfect study must be made of the locality. But Signor Sella, engineer of the district in which the Cruvino Mine is found, and formerly Finance Minister, observes:—"The undersigned concludes that the works executed by M. Boulart have shown an enormous vein of cobalt and nickel in a gangue of dolomite lime, quartz, and talcous and winding schists, with which it is intermingled. This vein inclines almost vertically to the west, and the metalliferous threads which it comprises vary in power from a very minute fraction to five-eighths of an inch. The undersigned is of opinion that the works executed up to the present time have presented sufficient indications of a mine of nickel and cobalt; and, although the metalliferous power of the mine may not be considerable, yet having regard to the high price of nickel a very small quantity will pay the expenses of extraction, and the undersigned, therefore, hopes that the Cruvino Mine will be worked at a profit, and, moreover, in conformity with the law of the 15th March 1846, which declares open in accordance with the terms of the 15th of Article 1 of the Code of 1840." After having indicated the analogy existing between the Cruvino Mine and that of Usseglio, Signor Sella observes that the discovery of veins on the extreme limits of a formation of cobaltiferous and nickeliferous veins may involve a fair presumption that a like future is in store in connection with their working.

There is rather a check noticed in the operations of the business world of Belgium. A spirit of speculation is, however, again remarked in connection with financial operations; and, if this only extends for a little space, a serious revival of activity may reasonably be hoped for in the iron trade. The numerous lines of railway, the construction of which will be authorised this year by the Belgium Chambers, can only be carried out on condition that capitalists apply themselves with blind ardour towards new enterprises. If, however, these lines succeed in establishing themselves, they will provide plenty of employment for metallurgical establishments and construction shops. A revival of the iron trade will thus be the consequence of an extension of financial operations, and the price of iron will approximate closely to the fluctuations of speculation at the most important bourses. Belgian works have presented themselves at an adjudication for rails, which has been made at La Haye by the administration of the Netherlands State Railways, and have remained victorious in the struggle, which brought several important Belgian, German, and English works into competition with each other. The following are the prices for rails of 2000 tons weight, and the same made were as follows:—Messrs. de Dierdout Brothers, of Liege, one lot at 67. 5s. 6d.; one lot at 67. 7s. 9d.; one lot at 67. 7s. 9d.; one lot at 67. 8s. 6d.; the final lot at 67. 9s. 6d. per ton. The Sciensin and Sarling Blast-Furnace Companies, one lot at 67. 8s.; one lot at 67. 9s. 6d.; one lot at 67. 11s. 3d.; one lot at 67. 12s. 9d.; and the final lot at 67. 14s. 6d. per ton. Messrs. C. L. de Smet and Co., of Brussels, two lots at 67. 9s. 6d. per ton; Messrs. Guet and Co., of London, five lots at 67. 18s. 6d. per ton; Messrs. Hayen and Boon, five lots at 67. 18s. 9d. per ton; Messrs. Bolckow and Vaughan, five lots at 71. 6s. 3d. per ton; Mr. F. Levick, five lots at 67. 19s. 3d. per ton; the Ebbw Vale Company, five lots at 71. 2s. 3d. per ton; and the Phoenix Company, of Ruhrort, one lot at 97. 17s. 3d., and two lots at 127. 5s. per ton. The tender of Messrs. de Dierdout Brothers was, of course, accepted. The same firm also secured an order for 400 tons of cramp iron at 107. 19s. 6d. per ton, the English house of Guet and Co., of London, having put in a bid of 127. 14s. 6d. per ton. In the case of this contract, indeed, the English firm could not maintain their ground in their own immediate neighbourhood. The Belgian market for pig is pretty well sustained; the rise in the prices of casting pig has been supported, and transactivity in No. 8 have not been effected below 37. 14s. per ton.

As regards the foreign metal markets, copper and zinc offer at this moment less interest; business has sensibly slackened, but, nevertheless, in consequence of the great firmness of holders, prices have been maintained almost without variation. Lead is in moderate demand, but prices are firm. At Antwerp, Belgian has made 19t. to 19t. 8s. per ton; German, 19t. 4s. to 19t. 12s.; and Spanish, 19t. 8s. to 19t. 12s. per ton. At Rotterdam and Amsterdam, Stolberg has realised 11½ ds.; at Paris, Spanish in saumons has brought 22t. 8s. French, 26t. 12s., and Belgian, 22t. per ton. At Amsterdam, the quotation for Dutch copper has been 37½ ds.; for French, 37 ds.; for Swedish, 32 ds. At Havre the quotation for French metal has realised 32t. 84s. per ton. In London (standard), 84s.; United States, Baltimore, 99t.; ditto, Lake Superior, 99t. to 100t. 16s. Mexican and La Plata in bars, 80t.; Russian, 108t.; old yellow copper, 52t. to 56t.; red ditto, 84t. to 85t. per ton. At Paris, English in plates has stood at 90t., Lake Superior at 104t., Chilean at 86t., tough cast at 90t., and Corocoro mineral at 88t. per ton. Rough Siberian zinc has been quoted at 19t., and rolled at 24t. per ton at Paris. Tin is in much favour, and it is a long time since the Dutch market exhibited so animated an appearance. The quotations for the metal have been 100t. 10s. per cwt., and the quotations were maintained with some difficulty at 73 fs. per cwt.; but official information having rendered it certain that there was a considerable deficiency in the production of the Banca mines in 1862, it is estimated that the total quantity offered at the approaching sale will not be equal to the mean total of previous years. This being the general opinion, speculation has displayed a strong tendency to transactions in tin, and several important affairs have been concluded, while prices have risen to 77 fs. per cwt. In the last fortnight, the London market has been somewhat slackened; nevertheless the metal continues to rise, and 77 fs. per cwt. continue to be paid. The following are the latest of the periodical calculations made:—

Stock, Jan. 28	1863.	1862.	1861.
.....Ingot	51,740	40,401	50,935
Deliveries in March	7,650	4,335	9,150
Stock, March 31	44,090	36,065	41,785
Arrived for the approaching sale	95,955	118,726	122,294

The advices from Holland and England having excited an upward influence on all the markets, prices have been generally rising. At Paris, Banca has been quoted 132t. 16s. to 134t.; Detroit, 181t.; and English, 131t. to 129t. At Havre, Banca has stood at 128t.

A great number of dividends in industrial enterprises are now in course of payment. The Central Belgian Company, for the construction and maintenance of railway plant, has fixed its second dividend for 1861-2 at 6s. per share. The Monceau Blast-Furnace Company has fixed its second dividend for 1862 at 16s. per share; and the proprietors in the Sacré-Madame Colliery at Dampremy, will receive 5l. 16s. per share (even at present prices this would be nearly 10 per cent. upon the investment). We referred last week to the prosperity of the Besaëges and Alais Railway, a line accommodating one of the coal districts of France. It appears that the receipts derived from the carriage of coal and coke over the line rose from 41,738l. in 1861 to 47,131l. in 1862, while the coal carried rose from 270,793 tons in 1861 to 316,515 tons in 1862. The augmentation here disclosed is divided in the following manner among the coal companies of the district:—The Robiac Company carried in 1861, 169,143 tons; and in 1862, 196,936 tons, showing an increase last year of 27,842 tons; the Alais Forges and Foundries Company carried in 1861, 77,668 tons; and in 1862, 99,428 tons, showing an increase of 21,760 tons; an augmentation of 2903 tons also appeared in the quantity of coal carried for the Grand and the Grand-Fondries, the Besaëges Forges and Foundries Company carried 23,176 tons in 1861, and only 16,525 tons in 1862;—the general augmentation for the year being thus reduced to 46,023 tons. The products of the two companies of Robiac and Alais have acquired a great development, but unhappily a terrible accident, which occurred in October, 1861, and which many readers will not have forgotten, produced last year a contrary result in the amount of coal carried from the Lalle concession. Although the works which this catastrophe rendered necessary were pushed forward with activity, the production of the Lalle Mine during 1862 remained very much below that of 1861; but it is expected that the production of 1863 will exceed that of all previous years. The Besaëges Forges and Foundries Company last year carried 1,349,000 tons in 1861, 1,539,000 tons of iron and pig, and in 1862, 1,591,000 tons, showing an increase of 7031 tons. The Besaëges Forges and Foundries Company transported in 1861, 1904 tons of iron minerals, and 3715 tons of iron, showing an increase of 1810 tons; but the Besaëges Forges Company only delivered 998 tons of minerals for carriage last year, against 2670 tons in 1861, showing a diminution of 1672 tons last year. This diminution is susceptible of very easy explanation. The total of 2570 tons was the product of the first six months of 1861, for after June, 1861, not a single ton of minerals was carried by the company's railway for the remainder of the year. This state of things lasted for 11 months also of 1862, but in December, 1862, the directors endeavoured to come to an understanding with the Terrenoire or Besaëges Company, as they now constitute themselves on having terminated a long law suit which had been pending for many years, by a new arrangement. A decree of the Chamber of Requests, dated April 8, 1862, having rejected the application of the railway company for a new arrangement, a decree of the Chamber of Requests, dated April 11, 1862, had lodged against a decree delivered in favour of the Terrenoire Company, by the Imperial Court of Paris, Feb. 1, 1861, an arrangement was arrived at on the following basis:—The tariffs on iron and pig, a reduction of which had been demanded, will continue in vigour, but the tariff on iron minerals and castina are reduced from 614d. to 344d. per ton per mile, and an account will be rendered to the Terrenoire Company of the sum forming the difference which existed between the tariffs of the railway company and the stipulations of the treaty of Oct. 6, 1855, which formed the object of the litigation. This sum, which might be estimated at about 1000l., will be paid in five instalments in 1863, without interest. The first annuity will become payable July 1, 1863, and in the last July 1, 1864, the sum of 2000l. will be paid. The effect of this arrangement might have prolonged their indefinitely the loss of the Terrenoire Company, but the view assures the company the carriage in considerable quantities of iron minerals and castina. During the first 11 months of 1862, not a single ton was carried either of iron stone or castina for the Terrenoire Company; but the new arrangement had scarcely been concluded, when in December 998 tons of iron minerals were transported, while in Jan., 1863, this quantity was further increased to 1931 tons. Everything leads to the belief that this movement will continue, and that the future will develop the advantages of the transaction in more extended proportions. The receipts of the line proper to 1860 a diminution as compared with the preceding year, but that they resumed in 1861 their accustomed level, and the movement which distinguished 1862 will in 1863 probably be continued during the same period. The receipts of the Besaëges line were 7551. in 1858, 907l. in 1859, 857l. in 1860, 1099l. in 1861, and 1252l. in 1862. The receipts for the first 11 weeks of the current year show an increase of 4040l., compared with the corresponding period of 1862, the augmentation being due in great measure to the fact that the Lalle Mine has regained all its activity. The directors of the Besaëges in their report that the carriage of coal forms an essential part of the company's traffic; and it is to the development which the mineral wealth of the Gard and the Ardèche can, and must, acquire that they are devoting all their attention. This concern (which will probably be shortly amalgamated with the great Paris, Lyons, and

portance which the coal trade of France is constantly acquiring, thanks to the steady growth of industrial enterprises among our no longer exclusively martial neighbours.

GREEN AND BLUE SLATE.

It was announced by the *Mining Journal* that "A company is in course of formation by Mr. LEE STEVENS, for working Slate Quarries at Llanfair, Merionethshire, under more than ordinarily advantageous circumstances," and which describes the vein of Green Slate to be of the extraordinary thickness of above 100 yards.

On this subject *The Times* (April 8) states that "An unparalleled demand for Slates exists at the present time, and so greatly exceeds its supply that all the Slate Quarries which have been for years abandoned in the districts of Harlech, and other parts of Merionethshire, are now being again worked with most hopeful expectations."

The general demand, in fact, for Blue Slate is so much in excess of the supply that cargoes are occasionally sold at 11. per ton profit on the invoice price; and the absolute want of Green Slate for Government and other first-class Buildings is so great that the prime cost is about twice that of the quarry rates for the Blue Slate, which have recently advanced 20 per cent. In short, these are expected to be amongst the most profitable Slate Quarries in Wales.

Of the Llanfair Quarries, the *Mining Journal* also says, "Both the veins of Green and Blue Slate rise to a considerable altitude above the level of the sea; they can be worked without machinery, by driving levels into the side of the hill, through which the produce may be inexpensively obtained; and the shipping place of Pen-y-sarn being within less than a mile of the Quarries, the Slate can be conveyed on board at 1s. per ton. Under these circumstances, we anticipate that the private subscription for shares, which is in progress, will be shortly closed."

Prospectuses and other information obtainable from Mr. LEE STEVENS, 36, CANNON-STREET, LONDON, E.C.

REPORT FROM NORTHUMBERLAND AND DURHAM.

APRIL 9.—The amount of goods exported from the Tyne last week shows a considerable falling off compared with the previous week. The quantity of coals exported was 27,962 tons, 2337 tons of coke, 8371 cwt. of iron, and 5293 cwt. of alkali. There was a decrease in coals of 10,076 tons, coke 433 tons, iron 1357 cwt., and alkali 6306 cwt.

The report of the Coal Trade submitted to the general meeting held on Tuesday last, in Newcastle, has been published. The whole report is very instructive, and presents many points of great interest to all connected with the important trade in coal, for which Durham and Northumberland has been so long famous, and, although it has been subject to great depression during the last year, the report still shows that it is the source from which the principal supply of coal, of every description, is obtained. We learn from the report that the shipments of coal have been as follows:—

	London.	Coast.	Foreign.
1861.....Tons	3,373,901	5,081,404	3,959,252
1862.....Tons	3,224,280	2,866,329	4,044,181
Decrease.....	149,621	Decrease 125,165	Increase 84,929

The London and Coast trades show, it will be seen, a trifling decrease; the export trade is, however, fully sustained, being about half of the entire export of coals from the kingdom, which, by the returns of the Board of Trade, has been 8,307,913 tons—the total quantity of coals shipped from the North having been, in 1861, 10,364,647 tons, and in 1862, 10,134,790 tons, showing a decrease of 229,857 tons.

The different descriptions of coal imported into London during the two years are classed as follows:—

SEA-BORNE COALS.—1861.		1862.
House coal	Tons 1,765,116	1,694,376
Steam	341,923	356,277
Gas	919,246	886,325
Coking and smith	176,689	157,915
Manufacturing	180,682	135,469
Small	61,589	56,118
Total	3,415,240	3,265,471

COALS BY RAILWAY AND CANAL.—1861.		1862.
House coal	Tons 65,006	42,297
Gas, coking, &c.	33,960	7,333
Coke	33,960	45,249
Inland	1,440,134	1,321,089
Total	1,554,114	1,416,165

This account does not include Welsh coals.

COALS SENT TO LONDON BY RAILWAY (INCLUDING WELSH COALS).	
1861.....Tons	1,642,502
1862.....Tons	1,513,296
Decrease in 1862	129,206

The decrease in the coals sent to London by sea from the North has, therefore, been 149,621 tons, and the decrease by rail has been 129,206 tons, and as the total quantity sent from the North by sea has been, in 1862, 3,224,280 tons, and the quantity by rail only 1,513,296 tons, or less than half the quantity sent by sea, the falling off by rail is much greater in portion than that by sea. This is one hopeful feature in the case, as it appears to show that the inland supply has reached some limit, and, therefore, cannot proceed further in the race of competition; should this prove to be the case, a speedy revival of the trade may be expected. The average prices received during the year have been for best coal 17s. 7d. per ton, and for second coal 15s. 3½d. per ton. The average freights having been 6s. 2½d. per ton in 1862, against 6s. 10d. per ton in 1861, thus giving a balance of 7¼d. per ton in favour of the coalowners. But best coals have been 1s. 10d. per ton, and second 1s. 11d. per ton lower than in 1861, a difference by the children of about 4s. 8d. This is a most enormous reduction, and if continued must be ruinous to many coalowners.

The report urges upon the coalowners the necessity of reducing the supply at the various markets, so as to ensure better prices, and there appears to be a great necessity for some measure of the kind, only the evils attending the partial employment of large concerns where a great establishment exists must urge them forward to the utmost working limit, if any remuneration can be secured.

A sub-committee was appointed, this sub-committee being instructed to lay before the trade, for acceptance or rejection, some organised arrangement, by means of which a better result may be expected to be achieved.

The coalowners decline to take a leading part in the formation of a "Miners' Permanent Relief Fund" at present. But the report states—"That considering the large annual amount already expended by owners of collieries in relief in cases of accident, and for other benevolent purposes, not less than 27,000l. per annum, the coalowners, as a body, ought to see a relief fund generally supported by the workmen of the entire district, in active operation, and under such management as they can approve, before they can with propriety be called upon to give a helping hand. In that case they may probably conceive it to be their duty to raise a fund in aid of payments already in operation."

The following resolutions were adopted at the meeting:—

That the report now read be adopted, printed, and circulated throughout the trade.

That the trade subscribe the sum of 1000l. towards the funds of the British Association, on the occasion of their meeting in Newcastle, in August next.

That in consideration of this and of the contribution to the Burrard Fund, and other disbursements on behalf of the whole trade, the secretary be empowered, in addition to the contribution of the household collieries, to draw upon the gas, steam, and coking collieries at the rate of one-sixteenth of a penny on the basis of each.

That a select committee be appointed to devise and bring before the trade some plan for improving the coal markets, either by an altered mode of selling, or by some equitable regulation of production; and that this committee consist of the following gentlemen: Messrs. Henry Morton, Robt. Anderson, Nicholas Wood, Jno. H. Forster, Thos. Wood, Hugh Taylor, Junr., and William Hunter.

That the sections of strata exhibited at the Industrial Exhibition be reduced and lithographed for the use of the trade, and a copy delivered to each colliery.

That this meeting be adjourned for three weeks, to receive at the expiration of that time the report of the committee.

As the coalowners promise their support to a "Permanent Relief Fund" when fully formed and organised, and in full operation, it is to be hoped that the men will persevere in effecting this, as there can be no doubt that if once formed the general public would also liberally encourage such a fund. With respect to the state and prospects of the coal trade, as shown by the statements in the report, they are certainly not very encouraging. The trade has from some cause reached a point from which it does not advance, but, on the contrary, appears to have a slight retrograde movement. This is, no doubt, owing in a great measure to the derangement in commercial affairs caused by the American war, and also by the very mild winters experienced of late. A further reduction of the output appears to be absolutely necessary but how this is to be brought about is, perhaps, a difficult matter. That the quantity of coal raised in the North has rapidly increased during the last few years is well known, so that the fact of the supply having outstripped the demand can scarcely excite surprise. The quantity of coals vented from the North during the past year, as shown above, amounts to 10,134,790 tons, and there can be little doubt that one-third more than this quantity could be produced by the collieries at present in operation if they were fully employed, and pressed for coal. This appears to be a moderate calculation, when the short time worked at many works is taken into consideration. This would produce for the purpose of vend 13,513,053 tons, so that it is evident the capabilities of the trade are sufficient to supply any demand that may be made upon it for some time to come, and perhaps the only certain mode of easing the present plethora will be the cessation from working new openings and workings, which must naturally follow the non-productiveness of the capital now employed.

But in order to employ the present collieries, and compete with other districts, any mode which would promise to cheapen the cost of production in the first instance, and thus increase the coalowners' profits and means of competing with other fields would appear to be worthy of the most careful attention at present. It must, therefore, excite surprise that the coalowners as a body appear to be so apathetic on these subjects. There can be little doubt that many seams of a strong nature, especially those containing bands, might be more economically worked by long wall, as shown lately by numerous papers in the *Journal*. The Hartley seams, in Northumberland, appear to be a fair field for the trial of this system, and this, in connection with the "coal-cutting machine" lately introduced to the Northern Institute of Mining Engineers, would appear to promise good results; at any rate, the experiments to test those modes of working could not be very expensive, and such a body as the northern coalowners could easily test such a system by a systematic trial. The Hartley seams, it is well known, are expensive to work, and the long wall, in connection with the coal-cutting machine, appears

to promise much. The latter machine is not, perhaps, applicable to pillar and stall working, on account of the limited space in the bords for its operation, but can be fully applied in long wall. It is the intention of Mr. Nicholas Wood, as stated at the late meeting of the Mining Institute, to give this machine a trial, if no other party comes forward to do so.

A meeting of miners was held at Horton, near Blyth, on Friday last, when Mr. Richard Fines, of Cramlington, presided. The object of the meeting was to consider the adoption of the rules of "The Northumberland and Durham Miners' Mutual Confident Association," and to lay before the pitmen of the district the necessity of a restriction in the hours of labour, and of organisation amongst miners. The Secretary (Mr. W. Crawford) read the proposed rules of the society, as agreed on at the meeting of delegates. The objects of the association are stated to be the better protection of labour amongst its members, and so far as possible to lessen the present amount of loss of life and health. Each colliery is to send delegates to meetings held in Newcastle half-yearly, and a secretary and treasurer will be appointed. Each member is to pay one penny per fortnight, and each colliery is to take care of its own funds. No colliery is to come out on strike unless its case is approved of by the managing committee, and if any man loses his employment through advocating the rights of his fellow-workmen he is to be supported by the society so long as he is out of adequate employment. The secretary said that there were now 3500 in the union. These rules, with the exception of some alterations in details, to be afterwards considered by a meeting of delegates, were adopted unanimously. Mr. Joseph Sheldon moved the first resolution, which affirmed "The good results flowing from a restriction of labour amongst miners." Mr. H. Henderson seconded the motion. He considered seven hours in the day quite long enough for any man to work. Men had been working in that district for nine, ten, or eleven hours in the day, but he was quite satisfied they would in the long run obtain as much for seven hours' labour. The motion was carried by acclamation.—Mr. T. Wakins moved "The indispensable necessity of organisation for ameliorating the miners' condition." He pointed out the value of such a union as theirs would be to the miners of the North, and the advantages it had already secured them. If it had not been for the great meeting which they held at that very place last year many burdens which rested on the shoulders of the pitmen then would have remained there yet; but for the unity they displayed then they would now have been working for 24 or 36 less than they were receiving.—Mr. T. Banks seconded the motion, which was carried amidst loud cheers. A vote of thanks to the Chairman terminated the proceedings.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

APRIL 9.—The Quarterly Meetings of Iron masters have been held, yesterday at Wolverhampton, and to-day at Birmingham. As anticipated for the last few weeks, the tone of these meetings has been quiet, it might be said dull. The improvement looked for early in the year has not been realised, on the contrary, the orders have been steadily worked down, and most of the manufacturers are slack, and prices amongst all who do not feel rigidly bound by the list sanctioned by the Association of Ironmasters are weaker. Some of the best makers are fairly at work, but as a rule the mills and forges are not going more than from two-thirds to three-fourths of the week. Pig Iron still hangs heavy. A good many buyers made large contracts in January, and are not in a hurry to renew. Makers cannot sell except at a reduction, which they are indisposed to yield, as the material is rather dearer than cheaper. Prices at which business can be done are 2s. 6d. lower, but sellers are not much disposed to make contracts at these rates. The puddlers, whose notices for an advance expired on Saturday, have, it is said, gone in at some of the works, and no doubt will soon be all at work. It is natural that they should feel impatient at the long continuance of a low scale of wages, but their masters are equally dissatisfied at the low prices which have so long prevailed, and an advance on which does not appear more, but less hopeful at the present moment than for some time past.

A very learned and elaborate History of Leek, which is situated in the Moorlands of Staffordshire, where the undulations swell into hills, which are the frontier steps of the great Pennine range, has been published. Mr. John Sleight, of the Inner Temple, barrister-at-law, whose family is associated with Leek, is the author; and there is appended to the work a chapter on the geology of the neighbourhood, by Mr. Thomas Wardle, of Leek Brook. Mr. Wardle describes the geological position of the town as resting on a portion of the Triassic, or New Red Sandstone, system. Rock salt exists to a large extent, but is not much worked, that used being chiefly obtained by evaporation from the brine springs. The iron ore of the valley of the Churnal, a tributary of the Dove, and on which Leek stands, has of late years been largely taken to South Staffordshire. Mr. Wardle says of this ore that it "from its favourable smelting properties, commands a higher price in the market than the ironstone of the upper coal measures. It does not require any drying or calcining process previous to smelting; and in this respect it differs from all other ironstones of the coal measures, which are burnt on the pit bank before being put into the blast furnace. Probably this may be partly owing to the greater proportion of lime which it contains (which exceeds that of the ironstone of the upper measures of Staffordshire by 12 per cent), and its freedom from all deleterious matter. It also contains a little larger per cent of magnesia and less carbonic acid." This ore is largely used in South Staffordshire; and two railway projects for lines for the Churnal Valley and one for Uttoxeter to Stafford, for which an Act is now being sought, look for a large amount of the traffic which is to pay their promoters to the conveyance of Churnal Valley ironstone. The latter line is very far the more direct, but the former has got parliamentary sanction. It is also some disadvantage to the latter that, in going straight to the South Staffordshire district, the line for Rugeley passes over the elevated plateau of Cannock Chase, and has in consequence a very steep gradient. In Mr. Wardle's essay interesting accounts are given of the limestone rocks in the locality, and the disappearance for some miles of the rivers Manifold and Hump in fissures in the rock. Lists of coal fossils, analyses of spring water, and sections of the country, are appended.

Can you throw any light on the position of the "British Miners' Benefit Association"? A young and amiable nobleman, a Member for a borough in Staffordshire, was induced to take part in its formation, and it certainly started with some names of great weight, although the success of a society originating in London was from the first regarded as problematical by many, amongst whom was the writer of this letter.

At the quarterly meeting of the North Staffordshire Coal and Ironmasters' Association, held at the Railway Hotel, Stoke-on-Trent (Mr. Wragge in the chair), the condition of the trades was stated to be very little improved, but quite as good as at the last meeting. The expectation then entertained, however, of an advance in the price of finished iron this quarter was admitted to have failed of realisation, and the resolution of the Ironmasters of South Staffordshire to make no alteration in the prices was unanimously adopted. The state of the coal trade was reported to be tolerably healthy, and although the sale for house fire purposes was slack, through the unusual mildness of the season, the demand for coal for potteries' purposes was tolerably good. Not much was doing in ironstone, good qualities of which were offered at the rates which prevailed during the last quarter. The demand for pig-iron was pretty brisk, and stocks have been reduced during the last three months, while orders are readily obtained at the prices quoted at the last quarterly meeting, but no advance can be obtained. The Chairman and Mr. Heathcote, of Apedale, were re-appointed to represent the district at the Mining Association of Great Britain.

REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

APRIL 9.—Although the Iron Trade continues to assume a quiet tone, there are evidences of a gradual improvement. Trade, with the exception of the cotton industry, is reported to be more healthy, and merchants confidently express a belief that a good trade will be done during the summer. The Americans are buying largely all kinds of munitions of war, and so far as can be ascertained, both from public and private sources, there is no possibility of an early termination of the war. We have a good demand for rails and railway ironwork of all descriptions. Bars and sheets are only in moderate request, and many complaints are iterated of the practice of underselling, now carried on very extensively by the more needy ironmasters. We may note that the Midland Iron Company have again resumed work, their operations having been suspended, owing to the destruction occasioned by the late boiler explosion. The cost of the repairs, though heavy, have not been nearly so much as was anticipated. The works are being carried out under the able supervision of a number of inspectors.

At the North Derbyshire Mining Company meeting, on Monday, at Chatsworth Hotel, Edensor, for the purpose of considering the position of the company with the view to winding-up or otherwise of the undertaking, Mr. Wans, of Matlock, occupied the chair. There was a numerous attendance. The secretary, Mr. J. Fairbairn, of Sheffield, read a report and statement of accounts, which showed a debt of 300l. against the company.—Mr. Eyre, of Chesterfield, said that as a great number of shareholders had refused to pay their calls, it was impossible to carry on the operations of the company, and he thought the best course to adopt would be to wind-up the company. There had been about 20,000l. expended, and yet Wren Park Mine had never yet been fairly tried. Mr. B. Swaffield seconded Mr. Eyre's motion.—Mr. Carrier, of Sheffield, a director, expressed his astonishment at the motion, and thought fresh capital might be raised to work Wren Park, and he would, therefore, move an amendment that a call of 1l. per share be made to continue the development of the mine. Mr. Emley seconded the amendment, and said he was sorry to find that so many of the shareholders had refused to pay up their calls. He named several, amongst them the late Chairman, and as the directors believed he would act with them in good faith, they had expended about 300l. more than they otherwise would have done. The amendment and the motion were then put to the meeting, when the resolution for winding-up the affairs was carried.—Mr. Eyre and Mr. Rollinson were added to the list of directors for closing the affairs of the company. We understand the mine and plant will be offered for sale by private contract, and, if necessary, by public auction.

The visit of the Lords of the Admiralty to Sheffield, on Thursday, is an event unparalleled in the commercial history of Sheffield. The growth of the Atlas Works is an event equally astonishing. Six years ago the firm employed but 200 workpeople; on Thursday the number had increased to upwards of 2000; and no less than about 35,000l. per annum is paid to the Midland Railway Company for carriage of the raw material, and for the conveyance of the manufactured article. The transition through which our naval system is passing from wood to iron has compelled the Government to look with great anxiety for manufacturers, and it has now been definitely admitted that Messrs. Brown and Co. are at the head

of the list. The Lords of the Admiralty witnessed on Thursday morning the rolling of a plate armour 12 inches thick, 40 feet long, and of the enormous weight of eighteen tons. Hitherto the largest plate made has been 10 feet by 4½, and it was thought that this size could not be much exceeded; but it was admitted by Mr. Fairbairn, as his sanguine belief, that with a proper adjustment of the weight to the ship, make the plates thickest where the danger is greatest, and where the men are engaged in working the guns, that our ships can now be made practically invulnerable. The production of Bessemer steel was also largely shown, and a belief was expressed that this metal can be used in the production of armour-plates, and as it is tougher than iron, the practical results from its use are expected to be even greater. At least 1000 persons were present. The programme included rolling in the old mill of a 5½-inch armour-plate for Her Majesty's ship *Royal Sovereign*, and a taper-plate for the *Enterprise*; the rolling in the new mill of a 4½-inch armour-plate for H.M.S. *Royal Alfred*; a 10-in. and a 12-in. plate, and a long 4½-in. plate for H.M.S. *Prince Albert*; and the operation of making steel for cannon by the Bessemer process.

Messrs. Mankin and Sons, of Attercliffe, Sheffield, have produced a novel kind of steel, out of which was obtained extraordinary results at Shoeburyness, in penetrating war-plates. If these bear out the anticipations which have been raised, they will furnish another staple branch of industry.

The Mill Dam Company are doing very well, and they are getting a large quantity of ore. The Mill Town Mine, at Ashover, is going on very satisfactorily as regards the progress being made in getting through the rockstone, but from its extreme thickness it is uncertain when the vein will be reached. A number of gentlemen have each agreed to subscribe 100l., and we believe that about 1800l. is already guaranteed. This is a very business-like way of proceeding, and as it will prevent anything like a speculation in shares, the mine will be fairly tested, and if it prove unsuccessful it will be abandoned.

The Share Market is very dull, except for banking, gas, and water stock. Midlands have improved, and the traffic returns are about 4000l. more than they were in the corresponding week of last year.

REPORT FROM MONMOUTH AND SOUTH WALES.

APRIL 9.—The Iron Trade evinces a fair amount of activity, and the works, generally speaking, are tolerably well employed. The principal makers have a good number of orders in hand, and the smaller works are kept regularly going, although there is not much briskness shown. Nearly all the works are in a position to greatly increase the make, if a commensurate demand existed, but until that takes place it would be exceedingly unwise to increase the supply. The quotations of the last three or four months continue to be firmly maintained, and the decline in Scotch pig has as yet had but a slight effect on prices in South Wales. The colliers employed at some of the collieries in connection with the ironworks have made an application for an advance, on the ground of the higher figure obtained for iron to what was the case 12 months ago. The application, as might be naturally expected, has been refused by the masters, as the wages of the men are now about the same as when rails were 6l. to 6l. 10s. per ton at the works. The colliers wisely returned to their work, on the promise that they would immediately receive an advance when the state of the trade warranted it. The coal market is moderately buoyant, and there is a healthy and pretty regular demand. Future prospects are encouraging, more especially as regards steam coal. Several new collieries will shortly be opened, and the means of supply will thus be considerably increased. The shipments for the present month are on the increase, and there are many unexecuted orders in hand. Quotations remain without alteration.

The emigration from this district at the present time is surprising. The tide seems to have set in with unusual vigour, and it appears as if we were to have a repetition of the Australian mania. Scores of persons, chiefly able-bodied men, are leaving weekly, the majority of them to America. What has brought this matter more than usually before the public is the fact that a number of the men have left without giving proper notice, and the masters have in consequence been obliged to resort to legal measures, with the view of protecting themselves against such inconvenience and loss. What puts the conduct of the men in a still more light is the disgraceful way in which several of them have left. It appears that they were foremen or sub-contractors over particular branches, and when the pay Saturday came, instead of paying their men with the money received from their employers they decamped, taking with them the month's wages of a number of poor workmen. Warrants were immediately issued against the delinquents, but to no purpose, as they had made their arrangements at Liverpool to embark for America without the slightest delay. No doubt, if any of them are captured, exemplary punishment will be awarded, in order to deter others from leaving in so discreditable and dishonest a manner.

The inhabitants of Merthyr have just been showing their gratitude to the princely proprietor of the Cyfarthfa Works, and also to the lord of the soil. On Easter Monday great rejoicings took place in celebration of the renewal of the lease from Lord Dynevor to Mr. Crawshaw. Processions and fetes were the order of the day, but the unfavourable weather prevented the programme being carried out in its entirety as regards the out-door rejoicings. The vital importance of the renewal of the lease to the town and neighbourhood of Merthyr cannot be over-rated, and the liberal spirit shown by both lessee and lessor in the matter deserved a public acknowledgment.

The adjourned inquest on the bodies of Griffith Jones and William Jones, who were drowned at the Biggin Colliery, Llanelli, was held on Thursday, before Mr. Bonville, the deputy-coroner, and a respectable panel of jurymen. The deceased Griffith Jones was the overman of the colliery, and it appears that he was a sober and orderly man. Mr. Rees Harries, the proprietor of the colliery, placed implicit confidence in him, and he had the full directions of the underground workings. From the evidence, it appeared that the water suddenly broke into a part of the colliery, and there was no doubt but that improper boring had been the cause. The rules of the colliery had not been infringed by the Government Inspector, but a copy had been sent to the Secretary of State. The jury returned a verdict of "Accidental Death." We understand that proceedings are about being taken by Mr. Evans against Mr. Rees Harries for the violation of the Act. Another accident has occurred at the Gethin Colliery. A collier, named Robert Jones, had to use powder, and after preparing the charge, he retired to a place of safety. After waiting for some time without any result, he incautiously walked back to the charge, and when he had just reached the spot the explosion occurred, and he was frightfully burned about the face. The deceased died in a few hours after. This is another instance as to how cautious colliers ought to be who have to use powder.

AN OIL WELL IN WALES.—A strange discovery has just been made at Blaenau, Monmouthshire. A correspondent states that as the horse-keeper employed by Mr. W. Lewis, contractor, was pumping water from a recently-constructed well on his master's premises, some 50 feet deep, he noticed oil floating on the surface of the water. Having called the attention of his master to the fact, he resumed his pumping, and oil and water continued flowing for some time, until it had accumulated in sufficient quantity to allow about four gallons of oil to be taken from the water. The oil has not yet been subjected to chemical analysis, but when a flame was applied it ignited readily and burned brightly. It is rather thick, and has a peculiar smell. Excavations in the vicinity of the well show the soil to be of a boggy nature. Mr. Lewis has determined upon having the spring fully explored, and the quality of the oil satisfactorily tested. This discovery, if it is not a mere coincidence, is of much interest, and persons are flocking from far and near to see and judge of the novelty for themselves. Our correspondent adds that there is an underground level in the vicinity, from which a substance has been worked containing a considerable quantity of oil of a similar nature. The result of the explorations will be duly chronicled.

Mr. Thomas Evans, the Government Inspector of Mines for the South Wales district, delivered an interesting and instructive lecture at Mountain Ash, Aberdare, a few evenings since on "Mining." There was a large and respectable attendance, more especially of those for whom the lecture was more particularly designed—colliery managers, agents, &c. The various methods of mining, and the many important discoveries recently made were very ably dilated upon and elucidated, and much valuable information given. Lectures of this kind are, indeed, much required in this district, and when qualified gentlemen undertake to give them they are appreciated as they deserve, more especially by the working classes.

TRADE OF THE SOUTH WALES SHIPPING PORTS.—There was a good stroke of business done at the principal shipping ports of South Wales during the past month of March—in fact, notwithstanding the trade with the United States of America is now completely destroyed, consequent upon the disastrous civil war, the returns of some of the ports bear favourable comparison with the corresponding period for the past two or three years, and the trade of the first quarter of the year 1863 has been in advance of that of previous years.

CARDIFF.—This, the leading shipping port in South Wales, has done a very large export trade, particularly in coals; the quantity sent to foreign ports proving that the various collieries in the interior of the district have been working regularly and satisfactorily, fully bearing out the reports which have from week to week appeared in the *Journal* as to the state of the trade. We find that during the past month of March no less than 564 ships cleared out for foreign ports, the aggregate quantities of coal, iron, &c., exported being 122,517 tons coal, 12,658 tons iron, 1917 tons coke, and 1806 tons of patent fuel. The exports of the three months of the present year compared with those of the corresponding period of 1862 and 1861, are as follows:—

1861.....Tons	Coal 247,007	Iron 34,638
1862.....Tons	315,614	25,078
1863.....Tons	341,143	34,885

Being a very large increase in the exports of coal over either 1862 or 1861, but a small decrease of iron as compared with the first quarter of 1862. There is a large business being done in the port at the present moment—a fact, merchants and captains have some cause of complaint at the somewhat long "stems" to which they have to submit.

NEWPORT.—No statistical returns of the trade of this port for the past month have been published, but there has been quite an average business done, the coasting trade, perhaps, having been the most buoyant. The removal of the shipping of those immense quantities of coals for the Royal East Indian Mail Steam-boats has, however, materially lessened the aggregate export tonnage, and we should not be surprised if, when the next returns are published, the harbour authorities will be regretting a larger falling off than they seem to have anticipated. Great expectations are entertained as to the increased trade which will result when direct sailing communication shall have been established with the Aberdare and Merthyr steam coal basin, and although, doubtless, a large increase will accrue, yet the harbour authorities should also do their part, and by fostering and encouraging local trades, the development of the natural resources of the harbour and docks, and by the reduction of dues seek to enhance the general prosperity of the trade of the port and district.

SWANSEA.—Compared with the corresponding month of the year 1862, the statistical returns of the trade of this port for the past month show a somewhat serious decrease in every department; but when it is stated that the trade of the first quarter of 1863, was the most successful in the history of the town, the figures which we append will show that a very good average trade has been done during the past month. We find that during the month 469 vessels, with an aggregate registered tonnage of 55,734 tons, entered the port; and the total shipping rates received were 1348l. 10s. 0½d. For March, 1862, the tonnage was 469 vessels, with an aggregate registered tonnage of 55,734 tons, and the shipping rates received amounted to 1537l. 11s. 11½d.; being a decrease on the last month on that of 1862 of 76 ships, 8000 tons, and 200l. shipping rates. By far the greatest decrease has been in the coasting and European trades, there being a slight increase, in fact, in the export

EAST TREKERRY continues to open satisfactorily, and good results anticipated during the next two months. There are only 1024 shares—\$4.17a. 62c. per share.

WHEAL CREBOR.—It is satisfactory to hear of the progress in this mine. It is believed they are now on the top of a large deposit of ore, and that the next three months' sinking will open a large body of ore. It has recently been inspected by a practical man, who speaks highly of the property.

EAST ROSKERN.—It is looking splendid, and richer than ever; the shaft has already improved to 180 fathoms, and it is anticipated when the level next taken down it will improve to 500. The next sale of copper will be greater than the last, whilst the cost for the same period will be much less.

THE WEST OF ENGLAND COAL AND IRON COMPANY (LIMITED).

To be incorporated under the Companies Act, 1862, whereby the liability of shareholders is limited to the amount unpaid on their shares.
Capital £100,000, in 20,000 shares of £5 each.
Deposit £1 per share on application, and £1 per share on allotment.
Future calls will not exceed 30s. per share, at intervals of not less than three months.
In the event of no allotment being made, deposits to be returned in full.
CHAIRMAN—T. W. COWAN, Esq., Kent Ironworks, Greenwich.
BANKERS—The Metropolitan and Provincial Bank, Cornhill, London.
BROKERS—Mr. A. J. Young, 3, Bartholomew-lane, Bank, London.
TEMPORARY OFFICES—7, EARL STREET, BLACKFRIARS, LONDON, E.C.
This company is formed for the purpose of working collieries and iron mines in the West of England.
Prospectuses, reports, and forms of application, to be obtained at the offices of the company.

THE GREAT DEVON AND BEDFORD (COLCHARTON) COPPER MINING COMPANY (LIMITED), TAVISTOCK, DEVON.

Incorporated pursuant to the Companies Act, 1862.
Capital, £25,000, in 10,000 shares of £2 10s. each.
Deposit, 10s. per share on application, and £1 on allotment.
BANKERS—The City Bank, Threadneedle-street.
BROKERS—Septimus Parrott, Esq., 1, Crown-court, Threadneedle-street.
MANAGER—Captain George Richards.
SECRETARY—Mr. H. Brook.
OFFICE—11, TOKENHOUSE YARD, E.C.

The SECOND GENERAL MEETING of shareholders will be held at the London Tavern, on TUESDAY, the 14th inst., at Twelve noon, and operations will be commenced at the mine a few days afterwards; after which time no further applications for the few remaining shares will be received.
Numerous reports, with prospectuses and forms of application for shares, may be obtained at the offices of the company, and of the broker.

THE CARLOGAS TIN MINING COMPANY (LIMITED)

Registered under the Companies Act, 1862, whereby the liability of each shareholder is limited to the amount of his shares.
Capital, £15,000, in 3,000 shares of £5 each.
Deposit, 10s. on application, and £1 on allotment.
DIRECTORS.
HANS JAMES HAMILTON, Esq., Rose Bank, Hanwell, Middlesex.
JOHN KIRKHAM, Esq., C.E., 100, Euston-road, N.W.
JAMES PEARCE, Esq., 29, Threadneedle-street, and Wimborne, Dorset.
THEODORE RICHARD SCHWEITZER, Esq. (R. T. Schweitzer and Co.), 26, Throgmorton-street.
Captain BENJAMIN WRIGHT, Heath Lodge, Clapham.
BANKERS—The Metropolitan and Provincial Bank (Limited), 75, Cornhill, E.C.
SOLICITOR—James Bourdillon, Esq., 30, Great Winchester-street.
SECRETARY—Mr. W. Dally.
OFFICES—33, GREAT WINCHESTER STREET, E.C.

PROSPECTUS.
This company is formed for the purchase and working of the Carlogas Tin Mines, situated in the parish of St. Stephen's, St. Austell, in the county of Cornwall, a district well known among mineralogists as being rich in tin mineral deposits. The sett is very extensive, and held under lease from Lady Grenville, for a term of 21 years, at a royalty of 1-18th.
The promising character of the mines to be worked by the present company fully warrants the expectation that large returns will be realised; five tin lodes are known to pass through the sett, and on one of which operations have been carried on to some extent by the former workers.
The mine is situated on the junction of granite and killas, so favourable for the production of metallic minerals, particularly tin.
The ancient excavations on the backs of the lodes give evidence that vast quantities of tin have been raised on the property, and recent explorations demonstrate this sett to be of no ordinary kind, it being merely a question of capital for a further development to bring it into a dividend state.
The reports annexed are from men of long practical experience in the district; their testimony as to the highly promising character of the property, and the great local advantages by which it is surrounded, will be read with interest, and leaving nothing to be urged by the directors, except an assurance of their strong confidence as to its value, and that ere long it will bear comparison with any of the rich mines opened in the district.
A contract has been entered into for the purchase of the property on most favourable terms—viz., for 6000l. (2500l. in cash, and 3500l. in paid-up shares).
The capital of the company is fixed at 15,000l., in 3,000 shares of 5l. each; it is, however, estimated that 2l. per share will be ample for all purposes, to place the mine in a profitable state, as immediate returns of tin can be made.
The company having been registered with limited liability, no shareholder can, under any circumstances whatever, be made responsible for a greater amount than that of the shares to which he subscribes.
A considerable portion of the capital has already been subscribed.
The directors propose to commence operations when they consider a sufficient number of shares have been subscribed for. The deposit money of 10s. per share to be paid to the company's bankers, for which receipts will be given. If no allotment be made, the deposit money will be returned in full; and if a lesser number be allotted than is applied for the surplus will be used towards the payment on allotment.
Prospectuses and forms of application for shares, and all further information, may be obtained at the offices of the company.

THE ROARING WATER MINING COMPANY (LIMITED)

Incorporated pursuant to the Joint-Stock Companies Act, 1862.
Capital, £18,000, in 6,000 shares of £3 each.
10s. to be paid on application, and 10s. on allotment.
DIRECTORS.
Mr. JAMES DOMBRIN, Monkstown, and 20, Molesworth-street, Dublin.
Col. BUSH, 55, York-terrace, Regent's-park (Director of the Oriental Inland Steam Navigation Company).
CHARLES T. HAWKINS, Esq., 12, Broad-street, Oxford (Director of the St. Just Mines).
WM. OGILVIE, Esq., Cushman-court, Old Broad-street (Director of the St. Just Mines).
Capt. PAUL, Queen's-road, Haywards (late of the Knockahon Mines).
H. CHURCHILL, Esq., Deddington, Oxfordshire (Director of the Strand Hotel Company).
BANKERS—London and County Bank, Lombard-street.
SOLICITORS.
Messrs. Mayrick and Gedge, 4, Storey's-gate, Great George-street, Westminster.
BROKERS—Messrs. Webb and Geach, 5, Finch-lane, Threadneedle-street, London.
MANAGER—Mr. Thomas Cooper Smith.
OFFICES—6, WARFORD COURT, THROGMORTON STREET, CITY.

The object of the company is to work the copper mines of Roaring Water, situated in the parish of Aughadown, in the barony of West Carbery, county of Cork, a district well known among mineralogists as being rich in mineral deposits. The sett extends over 1½ mile in length, and ¾ of a mile in breadth, and is held for a term of 31 years from July last, at a royalty of 1-18th, with a clause for renewal, on payment of a comparatively small fine at the end of that period for the same term.
The promising character of the mines proposed to be worked by the present company fully warrants the expectation that early returns will be realised; there are 19 well-defined lodes upon the sett, composed principally of yellow and peacock copper ores, rich specimens of malachite, friable quartz, and gossan of the finest description, from which many tons of rich ore have been taken, which on assay have been found to contain a large proportion of silver, and strong traces of gold, and as the geological formation is identical with that in Wales, from which so much gold is being now extracted, there is every reasonable ground to expect gold will be found on this property. These lodes, beyond all doubt, are a continuation of the rich veins of copper now working with such great promise and success at the Schull Bay, Cuppagh, and Ballycummick Mines, all of which there can be no reasonable doubt are a continuation of the Beerhaven lodes. The latter mines are said to have yielded from their commencement copper ore of the value of 2,000,000l. sterling. It is well known that the quality of the ores raised there is of a far higher standard (nearly double) than the average produce of the Cornish ores; this may be tested by a reference to the Swansea sale list.
Upwards of 4000 shares are subscribed for. The directors will receive applications for the remaining portion through the bankers, the solicitors, or the manager of the company, from whom prospectuses and forms of application may be obtained, with reports from the best practical men in the district; and the recent reports from the captain of mine as to the rich discovery made since the commencement of operations.

THE CAMBORNE DISTRICT, AND CROWAN CONSOLS.

TO THE EDITOR OF THE MINING JOURNAL.
SIR—I have no wish to trespass on the path of the "Cautious Man," although I am sure that he will not blame me for giving good advice to your readers, as he has done, from time to time; but I am anxious to draw the attention of your correspondents to the following opportunity for a good, honest investment.
The CROWAN CONSOLS MINING COMPANY (LIMITED) was brought out at the beginning of the year, for working with vigour and modern skill an exceedingly valuable property, which had been closed for very many years, in consequence of the last workers not having the funds to purchase a steam-engine of sufficient power to drain the mines. They had erected a wheel, but found it inadequate for the purpose required, and meeting with an accident at the same time, which killed four of the men, they became disheartened; and although their operations had been attended with the most successful results up to that moment, yet they were now saddled with expenses, and, being probably divided amongst themselves as to the future working, they gave up the sett.
The present company have carried on operations during the short period they have had possession with economy and judgment. They are now erecting an engine to work the mines, and when this is done they will have most splendid results. The opinion given by the acknowledged authorities who have inspected the sett is unqualified; indeed, there is no doubt of its being a magnificent property.
I, therefore, call the attention of "cautious men," careful men, and "all other men," to the prospects held out. Let them send their agents to look at the mine, and see the rich gossan on the backs of the lodes, as well as the magnificent specimens of ore broken from the shallow levels. Consider the district, the richest in Cornwall! Look for a moment at what the surrounding mines have done, and are doing, and then I am certain there will be but one opinion formed, and that will be that if the work is continued to be carried on with the same vigour as at present success must be certain.
I do not know that there are any shares in the London market, but investors should certainly obtain some if possible. That a great rise will soon take place in them it does not require a prophet to predict.
To coincide, I again repeat, send your own inspecting agent to Crowan and be guided by his advice, and you need not fear the result. I must not omit to mention that since the mine has recommenced working all the adjoining setts have been taken up, no bad proof of what is thought of the locality; indeed, I find in the locality the shareholders are most sanguine of the results, when the mine is opened up. In my opinion we shall see Crowan Consols take a leading position among the mines of this celebrated district before a very long period has elapsed.
London, April 6, 1863.

CHARLES DAVEY AND CO.,
SAFETY FUSE MANUFACTURERS,
ST. HELEN'S JUNCTION, LANCASHIRE.

Royal School of Mines.

ROYAL SCHOOL OF MINES.—NOTICE.—The REMAINDER of the COURSE OF LECTURES on GEOLOGY (twenty-four) will be given by Mr. J. BEETE JUKES, M.A., F.R.S., on Mondays, Tuesdays, Thursdays, and Fridays, at Half-past one, commencing on the 13th April. During the course lectures will be given in the field. Fee, £2.
TRENHAM REEKS, Registrar.

PRACTICAL GEOLOGY—KING'S COLLEGE, LONDON.

PROF. TENNANT, F.R.S., will COMMENCE a COURSE OF LECTURES on WEDNESDAY, April 16, at Nine a.m., having special reference to the APPLICATION of GEOLOGY to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE. The lectures will be continued on each succeeding Friday and Wednesday. Fee, £1 11s. 6d.
R. W. JELF, D.D., Principal.

CAUTION—TO BANKERS, BILL BROKERS, AND OTHERS.

Whereas BILLS OF EXCHANGE or PROMISSORY NOTES have been and may be PUT INTO CIRCULATION by Mr. DANIEL PEARSON, PURPORTING to be ACCEPTED or MADE by Messrs. "LLOYD, PEARSON, AND LLOYDS," or "THE MADELEY COAL AND IRON COMPANY," of Madeley, in Staffordshire.
And whereas the PARTNERSHIP between Messrs. LLOYDS and DANIEL PEARSON has been DULY DISSOLVED, and an INJUNCTION has been GRANTED by the Court of Chancery to RESTRAIN the said DANIEL PEARSON from DRAWING, ACCEPTING, ENDORSING, GIVING, or NEGOTIATING ANY BILL OF EXCHANGE or PROMISSORY NOTE in the NAME of "THE MADELEY COAL AND IRON COMPANY," or in the name of "LLOYD, PEARSON, AND LLOYDS," or in any other name whereby the Messrs. LLOYDS might be rendered liable.
ALL PERSONS are, therefore, CAUTIONED AGAINST DEALING WITH ANY SUCH BILLS OF EXCHANGE or PROMISSORY NOTES; and it is requested that information of any attempts to negotiate the same may be immediately given to Messrs. R. and S. MULLENS, solicitors, No. 7, Poultry, London, E.C.
London, March 18, 1863.

MERSEY DOCKS AND HARBOUR BOARD.—Notice is hereby

given, that the CHAIN AND ANCHOR TESTING WORKS, at BIRKENHEAD, will be BROUGHT INTO OPERATION after the 31st inst. Copies of the regulations and tables of charges in connection with the Liverpool and Birkenhead works will be furnished on application at either of the chain testing establishments. Any chains received at the Liverpool Chain Testing Works prior to the 31st inst. will be dealt with under the regulations at present in existence.
Dock Office, Liverpool, March 2, 1863.
JOHN HARRISON, Secy.

NOTICE IS HEREBY GIVEN, that the NEW

HIGHWAY BOARD will MEET on FRIDAY, the 17th day of April inst., at the TOWN HALL, NEWTON, in the county of GLOUCESTER, at Two o'clock in the afternoon, for the PURPOSE of ELECTING a SKILFUL and PRACTICAL SURVEYOR for the DISTRICT.
The salary will be £120 per annum, and the surveyor will be required to devote the whole of his time to the duties of the office. The district comprises an area of 130 miles.
Surveyors seeking the appointment must send their names, addresses, and testimonials to me on or before Thursday, the 16th inst.
By order, C. V. COOKE, Clerk to the Board.
Dated Newton, April 2, 1863.

QUEBRADA LAND, RAILWAY, AND MINING COMPANY (LIMITED).

The Directors of the above company being DESIROUS of CONSTRUCTING a MINERAL TRAMWAY of about 30 miles in length, in connection with the mines in Venezuela, will be glad to enter into communication with CONTRACTORS who may be willing to EXECUTE the WORK. Such communications, with details as the directors at present have may be obtained at the offices of Messrs. DUNFORD and RANKEN, No. 9, Broad-street-buildings, City.

CLEVELAND BLAST FURNACES.—The ADVERTISER

DESIRES the CO-OPERATION of a FEW GENTLEMEN to JOIN in the ERECTION of FURNACES on a most ELIGIBLE FREEHOLD ESTATE, commanding 16 ft. of the valuable CLEVELAND BANDS of IRONSTONE. Arrangements have been made for the purchase, by which the stone stands at the minimum of 3d. per ton only, and with practical gentlemen and one-half the requisite capital.
The furnaces being on the top of the stone itself, abundant water and slag deposit ground on the estate, coke, coal, and limestone at the minimum rate of the district, the Yorkshire and Cleveland Railway, and a station at the pit head, &c. present a combination for economic production not to be excelled.—Address, "H. C.," MINING JOURNAL office, 26, Fleet-street, London, E.C.

TO SHAREBROKERS, MINING ENGINEERS, &c.

THE CLEVELAND IRON DISTRICT.—A favourable OPPORTUNITY is PRESENTED to FORM a COMPANY for the MANUFACTURE of IRON in the celebrated IRON DISTRICT of CLEVELAND, NORTH YORKSHIRE. The property is situated on a line of railway, and contains the well-known beds of Cleveland ironstone. For particulars, address, "H. C.," MINING JOURNAL office, 26, Fleet-street, London, E.C.

TO MARINE TUBE MANUFACTURERS, OR PARTIES

WISHING COMMENCE MARINE TUBE MANUFACTURING.—The ADVERTISER SEEMS a SITUATION as MANAGER in the WORKING DEPARTMENT. Understands the machinery and furnaces, or would undertake to erect machinery and furnaces for any party wishing to commence in the above trade. Can give a statement of profits to be derived from the trade, and can have a first-rate character of some years standing.—Apply by letter, "X. Y. Z.," Post-office, Walsall.

TO CAPITALISTS.—WANTED TO BORROW, a LOAN of

SIXTEEN TO EIGHTEEN THOUSAND POUNDS on a FREEHOLD ESTATE of very ample value, worked as a COLLIERY.—Apply by letter, addressed to Messrs. MOULTON and SON, law stationers, 57, Chancery-lane, London, W.C.

TO MINE AGENTS AND OTHERS.—FOR SALE, a bargain,

about ONE HUNDRED FATHOMS of NEW ¾ in. B.B. CHAIN. Also FIFTY FATHOMS of 9 in. CAPSTAN ROPE, nearly new.—Apply at NORTH JAMES MINES, near Truro.

FOR SALE, the IRONWORK COMPLETE for a LARGE

BLAST FURNACE, including wrought-iron shell, gallery, tuyeres, pipes, heating stove, &c., all ready for erection, made for abroad by the eminent firm of Cochrane and Co., Staffordshire.—Apply to Mr. WM. DANKINHAM, Fendleton Ironworks, Manchester.

LAND VALUER AND ESTATE AGENT.—MINERAL

PROPERTY carefully SURVEYED, INSPECTED, and correctly REPORTED UPON. First-class references in London and the country.—Address, Mr. R. W. JONES, Bryn Hyfryd, Lloek, near Holywell, North Wales.

NOTICE.

TO THE SHAREHOLDERS OF THE NORTH HAFOD, ABERNANT, AND WEST SILVER BANK MINES.—The shareholders in the above mines can have some VALUABLE INFORMATION as to HOW the MONEY HAS BEEN SPENT at these MINES, by applying to Mr. JAS. NAYDMITH, manager, Abernant Ironworks, Abernant, who is a large shareholder in two of these mines himself.—Abernant, April, 1863.

TINCROFT MINING COMPANY.

1, WINCHESTER BUILDINGS, E.C., LONDON.
Notice is hereby given that a DIVIDEND of FIVE SHILLINGS PER SHARE has this day been DECLARED on the shares of this company, PAYABLE on and after the 13th inst.
By order of the board, HIRAM WILLIAMS, Secy.
Dated 2nd April, 1863.

THE CAMBRIAN STONE AND SLAB COMPANY (LIMITED).

Capital £20,000, in 2000 shares of £10 each, of which only 1000 shares will be at first issued.
Deposit £1 per share, and £4 on allotment.
No call for six months.
Registered under the Companies Act of 1862.
DIRECTORS.
Lord HENRY GORDON, Chairman of the Wellington Life Assurance Company, Chatham-place, E.C.
RICHARD LAWRENCE, Esq., Connaught-square.
Major SEAW, Commercial-road, Peckham.
J. E. PANTER, Esq., Lee Road, Blackheath.
JOSEPH HOPGOOD, Esq., 15, George-street, Hanover-square, and St. Albans.
BANKERS—Alliance Bank of London and Liverpool, Lothbury.
SOLICITOR—H. Fryer, Esq., Gray's Inn.
SECRETARY (pro tem.)—Mr. P. O'R. Robertson.
OFFICES—36, KING WILLIAM STREET, LONDON, E.C.

This company is formed to carry on and extend a valuable stone and slab quarry, situated near Fortmead, in the county of Carmarthen.
The produce of the quarry is of a first-class character, and contracts could be now taken sufficient to employ the quarry for many years.
The directors will proceed to complete the purchase of the property and proceed with the works as soon as the first thousand shares are subscribed for. Such not being the case, the whole deposits will be returned free from any deduction.
Applications for shares to be sent to the bankers, or, if more convenient, to the secretary of the company.
No bonus is paid in any way for promotion expenses, and the sum to be paid for the estate includes all preliminary expenses.
A considerable portion of the shares are already subscribed for privately.
Full reports on the quarry, and forms of application for shares, can be obtained on application to Ross and Co., 4, Lothbury, E.C.; and the secretary, at 36, King William-street, E.C.

THE EXHIBITION OF ALUMINIUM AND ALUMINIUM BRONZE.

TWO THOUSAND SPECIMENS, illustrating the application (ornamental and useful) of these interesting metals are now on view at—MAPPIN BROTHERS' NEW ROOMS, 722, REGENT STREET.
Admission by card.

ASSAYS AND ANALYSES OF ORES, METALS

MANURES, &c., on the most moderate terms, and with the utmost accuracy. List of fees per post, on application.
JOHN LONGMAID, CITY LABORATORY AND ASSAY OFFICE, 31, THROGMORTON STREET, E.C.

TO INVENTORS.—All INTENDING PATENTEES should

PROCURE THE PRINTED INFORMATION regarding PATENTS, their COST and the MODE of PROCEDURE to be adopted, ISSUED GRATIS by the GENERAL PATENT COMPANY (LIMITED), 71, FLEET STREET, LONDON.
R. MARSDEN LATHAM, Secy.

CARNARVONSHIRE, NORTH WALES.

EXTENSIVE and HIGHLY PRODUCTIVE COPPER MINE FOR SALE, including all the VALUABLE PLANT, MACHINERY, BUILDINGS, TRAMWAYS, &c.

MR. W. DEW WILL SELL, BY AUCTION (unless previously

disposed of by private contract, in which case due notice will be given), at the British Hotel, Bangor, on Wednesday, the 15th day of April, 1863, at Three o'clock in the afternoon.

All that VALUABLE and far-famed COPPER MINE, worked by a company called the CWMDDYLE COPPER MINING COMPANY (LIMITED), situated on the north-east side of the great Snowdon, now in full operation, together with the costly MACHINERY, CRUSHERS, STAMPS, WATER WHEEL, WAGONS, TRAMWAYS, INCLINES, DRESSING HOUSES, ENGINE SHED, BARRACKS, SMITHS' and CARPENTERS' SHOP, MINERS' COTTAGES, as well as ALL INTEREST in the LEASE, which gives exclusive right of searching and digging for all other minerals in this acknowledged rich and productive district, comprising an area of 2000 acres, or thereabouts, the whole of which is thickly interspersed with veins of quartz, nearly the same nature and colour as that found in the Merionethshire gold mining districts.
The mine has been worked to advantage for the last five years by a company of limited capital, during which, with comparative few hands, upwards of £2000 worth of copper has been sent into market.
The present lodes are of great size, and exceedingly rich; and from reports made by eminent mining engineers and practical miners, a further yet moderate outlay of capital is all that is necessary to render this mine one of the largest and most profitable in the Principality.

The mine is held under a lease from Sir Richard Williams Bulkeley, Bart., M.P., for a term of 35 years unexpired, at a royalty of 1-18th of the gross value of the produce.
The whole of the works and machinery are in the most complete and efficient state, full particulars of which, giving satisfactory reasons why the present company are parting with it, may be had of the secretary, Mr. R. STUART; at the MINING JOURNAL office, 26, Fleet-street, London, E.C.; and of Mr. Dew, auctioneer, Bangor.

The agent, Mr. OWEN OWENS, residing at Pen Pass, near Llanberis, will show intending purchasers over the mine, and furnish them with every further information that they may require respecting the same.
The directors refrain from publishing, as is usually done, any florid reports, feeling confident that personal inspection will more than satisfy persons competent to judge as to the genuineness and eligibility of this property as an investment.

THE TORBANEHILL MINERAL.

FOR SALE, BY AUCTION, A QUANTITY OF AT LEAST SEVERAL THOUSAND TONS OF THIS CELEBRATED MINERAL.

MESSRS. P. BURN AND CO. WILL SELL, BY AUCTION,

within the sale rooms, 9, Exchange-place, Glasgow, at Twelve o'clock noon, on 16th April next, a LARGE QUANTITY of the MINERAL in question, in lots to suit purchasers. The quality will be equal uniformly to the best in the market.
Samples will be seen, and particulars learned, on application to Messrs. P. BURN and Co., or to Mr. JAMES ROBERTSON, mineral manager for Mr. GILLESPIE, Torbanehill House.

GREAT LAXEY MINING COMPANY, ISLE OF MAN.

MR. RABY WILL SELL, BY AUCTION, at his Auction Mart, Drummold-street, Douglas, on Thursday, the 16th April next, a NUMBER of SHARES in the ABOVE-NAMED COMPANY, the property of the late John Colton Tupper. By order of John Robert Oliver and W. Berry, trustees of the said estate.
The Auction to commence at Twelve o'clock.
A. W. ADAMS, L. W. ADAMS, Advocates.

TON MAWR ESTATE, AND MINERALS UNDER WAINLLWYD, NEAR

NEATH, GLAMORGANSHIRE.

MR. ROBERT EVANS, of Bridgend, near Neath, Auctioneer, begs

to announce that he has been instructed to SELL, BY PUBLIC AUCTION, in two lots, at the Castle Hotel, Neath, on Wednesday, the 22d day of April, 1863, at Three o'clock.

A VALUABLE FREEHOLD LANDED and MINERAL PROPERTY, comprising a FARM HOUSE, FIFTEEN COLLIERIES' COTTAGES, shop, store, and school-room, and about ONE HUNDRED AND TWENTY ACRES of PASTURE and WOODLAND, together with the MINES of COAL, now being worked, IRONSTONE, and OTHER MINERALS underlying the same, known as the TON MAWR ESTATE.
And also the MINES of COAL, IRONSTONE, and OTHER MINERALS, under a neighbouring property, known as WAINLLWYD, containing about 78 acres, the whole being let to respectable tenants, at rents and royalties exceeding at present £300 per annum, and capable of considerable increase.
And also a POLICY of INSURANCE for THREE THOUSAND POUNDS, effected in April, 1858, in the London Life Assurance Association, upon the life of a gentleman aged 52 years.

Mr. EDWARD STRANGE PARSONS, of Neath, and of the Ton Mawr Colliery, will show the property, and particulars and conditions of sale, with plans annexed, may be had of Messrs. GREEN and ALLIN, solicitors, 10, Angel-court, Bank, London; or of DAVID RADDALL, Esq., solicitor, Neath; or of Mr. EDWARD STRANGE PARSONS, Neath; of the Auctioneer; and at the principal inns in the neighbourhood.

THE WORKS OF THE ST. HELEN'S ALKALI, BLUE VITRIOL, AND METAL

COMPANY (LIMITED), ST. HELEN'S, LANCASHIRE.

MESSRS. FULLER AND HORSEY are instructed by the directors

to SELL BY AUCTION, on Wednesday, May 13, at Eleven, upon the premises, St. Helen's, in One Lot, unless an acceptable offer be previously made by private contract, the highly important FREEHOLD PROPERTY, known as the works of the ST. HELEN'S ALKALI, BLUE VITRIOL, AND METAL COMPANY (LIMITED), situated at ST. HELEN'S, LANCASHIRE, about fourteen miles from Liverpool, with canal and railway communication between the two places and all parts of the kingdom.
The works were established about seventeen years since, for the purpose of working a patent for extracting metals from ores, and for the manufacture of the sulphate of soda and soda ash, and they are at present fitted with plant capable of producing 60 tons of soda ash and 10 to 12 tons of sulphate of copper weekly; but, by a modification of the plant, it could be made capable of producing, by the ordinary process of manufacture, 300 tons of soda ash and 20 tons of sulphate of copper weekly. The total quantity of land occupied by the works is 9 a. 1 r. 33 p. The St. Helen's Canal flows past the eastern boundary of the property, and there is a wharf with facility for landing or loading goods, extending the whole length, and also a fresh-water wharf, about 170 feet by 60 feet. The St. Helen's Railway forms the southern boundary of the property, and there is a siding on to the works. Coals can be procured from neighbouring collieries, the uniform rate of carriage for which is sixpence per ton from the collieries to the works. A large reservoir for water has been constructed, which is supplied in a most ample manner from an adjacent colliery, at a fixed charge of 100l. per annum.
The buildings are substantial, and many have been erected within the last thirteen years. They are principally ground-floor buildings, with slated roofs. The total area covered by buildings is about 8½ acres. There are two lofty brick main chimneys—shaft 300 feet and the other 250 feet in height, and numerous flues communicating therewith from all parts of the works. The free-simples of the property, with the whole of the plant and machinery therein, will be open to negotiation for sale by private contract until Thursday, April 30; and, if no acceptable offer be made by that time, the freehold property will be sold as one lot, and the plant and machinery in lots in detail, on Wednesday, May 13, as before stated.

The works may be viewed till the sale, at any time, by special order, which, with printed particulars and plans, may be had of Messrs. Fuller and Horsey, 13, Billiter-street, London, E.C.

Particulars and plans may, in due time, be had at the Adelphi Hotel, Liverpool; at the Queen's and Palestine Hotels, Manchester; at the Queen's Hotel, Birmingham; at the Wellington Hotel, St. Helen's; of Messrs. SEWELL, SEWELL, and EDWARDS, solicitors, Grasmere House, Old Broad-street, London; and of Messrs. FULLER and HORSEY, 13, Billiter-street, London, E.C. A portion of the purchase-money may remain on mortgage.

PLANT AND UTENSILS OF THE ST. HELEN'S ALKALI, BLUE

VITRIOL, AND METAL COMPANY'S WORKS, ST. HELEN'S, LANCASHIRE.

MESSRS. FULLER AND HORSEY are instructed by the directors

to SELL BY AUCTION, on Wednesday, May 13, and following days, at Eleven each day, at the works, in Lots, unless an acceptable offer be made for the whole by private contract before April 30, the PLANT and UTENSILS of these EXTENSIVE WORKS, including a lead sulphuric acid chamber, 72 ft. long; 4 lead concentrating tanks, 21 lead coolers, 5 lead wells, 1 lead precipitator, 8 lead settling and dissolving tanks, 12 lead pumps, lead cisterns, 10 pitch pine coolers, 20 large sulphate ash furnaces, containing about 300 tons of iron, and about 250 rods brickwork; three wrought-iron salt cake pans, 4 salt cake roasters, black ash furnaces, 8 wrought-iron circulating vats, 2 carbonaceous towers, 3 concentrating pans, 13 settling pans, salting down pans, 2 flashing furnaces, a 35 horse power condensing steam engine, a 16 horse power high pressure steam engine, 2 smaller high pressure steam engines, of 6 horse and 10 horse power, 6 wrought-iron steam boilers, 2 crushing mills, with elevators and screens; pair of edge runners, 1 single runner, 1 mortar mill, shafting and gearing, set of 3 paint mills, large cast-iron water tanks, in plates; 2 large wrought-iron evaporating pans, 1 spare Cornish steam boiler, 24 circular cast-iron pans, 12 railway trucks, on springs; 5 tons weighbridge, 5 Poles' weighing machines, 10 tons contractors' rails, turn tables, 50 tons wrought-iron plates and scrap iron, lever punching press, fittings of smiths' and disters' shops, stores of various descriptions, 5 tons of new red and bar iron, cast and sprigging copper, 10 tons spare and duplicate gearing for mills, 10 tons of wrought-iron utensils, 36 barrows, 15 small iron and wood trams, 3000 ft. ash, elm, poplar, and yellow pine boards, gas fittings, 4 tons pig and sheet lead and lead pipe, 3000 fire-bricks, fire engine and hose, crabs, screw jacks, leather and gutta percha bands, fittings of laboratory and offices, and numerous other effects.

To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had on the premises, and of Messrs. FULLER and HORSEY, 13, Billiter-street, London, E.C.

SMELTING WORKS FOR LEAD AND ZINC ORES,

NOW IN FULL OPERATION, IN WALES.—TO BE DISPOSED OF, as

OLD ESTABLISHED BUSINESS, with PREMISES and PLANT, adapted for SMELTING LEAD and ZINC ORES, and for the MANUFACTURE of SHEET LEAD and LEAD PIPE, to the extent of about 55 tons per week; also, for DESULPHURISING LEAD.

The works are most desirably placed on a line of railway, and with water communication. About £12,000 will be required. One-half the purchase money may remain on mortgage.

For further particulars, apply to Messrs. FULLER and HORSEY, 13, Billiter-street, London, E.C.

NORTH STAFFORDSHIRE.

COAL AND IRONSTONE MINES TO BE LET,

ON LEASE.—The very EXTENSIVE BEDS of COAL and IRONSTONE in the RUSHTON GRANGE ESTATE, in the parish of BURSLEM, in the county of STAFFORD, comprising upwards of 200 acres of land, wholly entire, situate in the important of the Staffordshire potteries, and embracing all the various mines of that important coal field, the uppermost seams of which crop out in the estate, and are partly unworked by neighbouring workings.

The Trent and Mersey Canal passes right through the estate, and the North Staffordshire Railway runs adjacent, by which ready means of transit are afforded to all parts of the Kingdom.

The local manufacturers and ironworks require very large supplies both of coals and ironstone, and altogether such an opening is presented to capitalists for establishing a colliery on a large scale as can rarely be met with.

UPSET PRICES GREATLY REDUCED.

MALLEABLE IRONWORKS AND FORGES, AND OTHER SUBJECTS, NEAR AIRDRIE.—There will be exposed to PUBLIC SALE, within the Faculty Hall Sale Room, Glasgow, upon Wednesday, the 15th day of April, 1863, at 2 o'clock afternoon (unless previously disposed of by private bargain).—**THE GARTNESS MALLEABLE IRONWORKS AND GARTNESS AND MOFFAT FORGES**, situated in the vicinity of the town of Airdrie, and about twelve miles distant from Glasgow, with about 30 acres of land, in a high state of cultivation. The ironworks, when in operation, turned out from 160 to 180 tons of malleable iron weekly.

The forges are situated in the immediate vicinity of the ironworks, are in good working condition, and capable of making shafts of 10 to 12 tons weight and under. The locality in which these works are situated is very favourable for obtaining supplies of iron and coal on the best terms, and a permanent railway communication may be secured on moderate terms.

Upset price now reduced to £2000.
2.—STEADING OF GROUND at Bawyards, near Airdrie, with the WORKMEN'S HOUSES erected thereon. Fee duty, £11 8s. 3d. per annum.
Upset price now reduced to £200.

3.—STEADING OF GROUND in Johnstone-street, Airdrie, with the WORKMEN'S HOUSES thereon. Fee duty, £3 9s. 10d. per annum.
Upset price now reduced to £125.

For further particulars, apply to Messrs. McCLELLAND, SON, and SMITH, accountants, 163, St. Vincent-street; Mr. WILLIAM FERRIS, manager, Calderbank Ironworks; Messrs. ANDERSON, writers, 40, St. Vincent-place; or to BARNHARTT and KIRKWOOD, writers, 151, West George-street, in whose hands are the title deeds and articles of roup.—Glasgow, March 1863.

VALUABLE MINES OF COAL AND IRONSTONE

TO BE LET.—THE MINES in the DENBY OLD HALL ESTATE are about to be brought into the market. They consist of the MAIN, SOFT, and ELL, or MINGE COALS, or such portions as remain unworked of this seam; the FURNACE COAL, or BLACK SHALE COAL, and the celebrated seam called the KILBOURNE COAL, also the VALUABLE RAKES of IRONSTONE, the quality of which is of the first order, together with BEDS of FIRE-CLAY, POTTERS' CLAY, and BRICK CLAY. The estate comprises 343 acres.

The only portion at present in work consists of 84 acres, the mines in which are on lease to the Butterley Company down to the Minge coal, including the black and brown shales of ironstone.

The Ripley branch of the Midland Railway runs through the property in a most convenient position, and there is a communication by tramway with the Derby Canal.

Application to be made to ROBERT S. PARKER, Esq., at Denby Old Hall, near Derby; or Messrs. WOODHOUSE and JEFFCOCK, mineral agents, Derby.

VALUABLE ROYALTY OF SILKSTONE COAL FOR

LEASE, IN DERBYSHIRE.—About ONE THOUSAND ACRES of the SUPERIOR SEAM of HOUSEHOLD and COKING COAL, at a moderate depth from the surface, and adjoining the Midland Railway, with facilities for transit already existing. The increasing demand for this excellent coal in the London and southern markets, and for the coke in local markets, and the small area available at a moderate depth, point to this as an unusually favourable opportunity for the safe investment of capital.

Applications, from principals only, to be made to Mr. EDWARD HEDLEY, mining engineer, Gerard-street, Derby.

MINING CAPITALISTS.—TO LET, the VALUABLE

MINERALS of a LARGE ESTATE, pleasantly situated on the YORKSHIRE COAST, near SCARBOROUGH, abounding with IRONSTONE of the Cleveland band, famous HULGRAVE CEMENT STONE, rich SEAMS of JET, ALUM ROCK, SHALE for making fire-bricks, &c., LIAS LICHSTONE, and capital FREESTONE for building purposes. A commodious manager's residence, offices, &c.; paddock, garden, labourers' cottages, extensive outbuildings, &c. All or any portion to be had at a moderate royalty or rent.—Apply to Mr. HAMMOND, Pockham-ry, Surrey.

NOTE.—Gold has been found in the shale.

THE GREAT TALYMEWYN SLATE AND SLAB

QUARRY.—The Great Tallymewyn Slate and Slab Quarry is situated in the parish of Mallywyd, in the county of Merioneth, and is a continuation of the extensive quarry Aberllynny.

A lode and has been cut across the vein, and the nature of the rock is most promising; 40 ft. lower down again a tunnel has been driven, intersecting the vein, and I find the rock here to be of the same pure quality. The tunnel has been driven through the vein, and I find there is any quantity of slate and slab. There is also every convenience to erect buildings for machinery, and an ample supply of water on the premises to work the engines.

I must not omit to mention that this quarry is within six miles of the station of the Newtown and Machynlleth Railway.

Should any respectable company wish to treat for the Tallymewyn Slate and Slab Quarry, they will please to send a pre-paid letter to Mr. JOSEPH PARKY, Corrie, near Machynlleth.

DINAS FIRE-BRICKS.—MESSRS. FREDERICKS AND

JENNER beg to offer these well-known bricks, either at their Dinas Bridge or Kidwelly Works, and can safely recommend them as EQUAL, if not SUPERIOR, to ANY FIRE-BRICKS MANUFACTURED, having the highest testimonials from the largest copper smelters and consumers in the world.—Full particulars, with testimonials, prices, &c., can be had on application to their agent, Mr. GEORGE YOUNG, Bristol Ferry, South Wales; or the Dinas Bridge Brick Works, Glyn Neath; Kidwelly Brick Works, Kidwelly; or Messrs. EASTWOOD, Belvidere-road, London.

SALE OF BASTIER'S CHAIN PUMP PATENT.

Mr. J. U. BASTIER is DESIROUS of FINDING a PARTNER for CONTINUING the DEVELOPMENT of his ENGLISH PATENT for his CHAIN PUMP, or he is WILLING to SELL the ENTIRE or PART of his INTEREST therein.

He proposes to grant four exclusive licenses for the full term of the patent, for England, Scotland, Ireland, and Wales respectively:—

For the license for England, he demands the sum of £2000 for the unreserved transfer, or £1000 if 25 per cent. of the net profits be secured to him.

For the license for Scotland, he demands £1500 for unreserved sale, or £750 with 25 per cent. of profits.

For the license for Ireland, he demands £1400 for unreserved sale, or £700 with 25 per cent. of profits.

And for the license for Wales, he demands £1200 for unreserved sale, or £600 with 25 per cent. of profits.

Address, J. U. BASTIER, C.E., 47, Warren-street, Fitzroy-square, London.

MANCHESTER.

MR. W. HANNAM: OFFICES, ROYAL INSURANCE

BUILDINGS, KING STREET, MANCHESTER.

MINING, SLATE QUARRYING, INSURANCE, AND GENERAL STOCK AND SHAREDEALER.

A monthly investment Circular on application.

Sharedealing in this office is limited to special mines, and companies whose pretensions have been personally investigated, and to the dividend-paying mines ordinarily dealt with on the London market, and for the latter purpose arrangements have been made for the earliest information from the great mining districts. There can be little doubt that in dealing with well-established, dividend-paying mines, investors, without any greater risk than accrues from purchase of railway or house property, receive a much larger regular profit than from any other species of investment, free from all trouble, and paid in the most convenient form for those who have limited incomes—viz., every two or three months; while those who enter into new undertakings, such as progressive mines, have the knowledge that nothing which is not bona fide, and has stood the test of thorough examination, is submitted to them. It cannot, of course, be expected that where the profits are so enormous that these latter investments should be entirely free from risk. All that can be done is to ascertain the respectability of the management, and the value of the prospects. This done, no speculations are likely to be so valuable as those in mining operations; it being no uncommon occurrence for shares to rise in value 200 and 300 per cent. in a few months.

MR. GEORGE HENWOOD, MINING ENGINEER,

LOCHHEAD HOUSE, LOCHWINNOCH, SCOTLAND, OFFERS his SERVICES and ADVICE on mines situated in any part of England, Scotland, Wales, Ireland, Isle of Man, &c. Mr. Henwood's extensive experience in his peculiar department of mining science is well known, and will be exerted to the utmost for the benefit of his clients.

MR. D. STICKLAND, M.E., having had upwards of 40 years'

experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE ADVICE on MINES and their MANAGEMENT.

MR. STICKLAND begs to OFFER his SERVICES in BUYING and SELLING SHARES on advantageous terms for capitalists, who will do well to consult him, either by letter or personally, previous to their investing in mines now at work, or in schemes now being brought before the public. Good references given if required. Mines inspected and faithfully reported on.

His monthly "Circular" for March continues the difference between the Limited Liability and the Cost-book Systems. A selected list of mines forwarded on receipt of six postage stamps.

Address, Finsbury-street, Finsbury-square, London.

BRITISH AND FOREIGN STOCK, SHARE,

AND MINING OFFICES.

Messrs. T. FULLER and CO., 26, CHANGE ALLEY, CORNHILL, LONDON.

TRANSACT BUSINESS in EVERY DESCRIPTION of SHARES in BANKS, RAILWAYS, CANALS, INSURANCE, MINES, and GOVERNMENT STOCK. Dividends received, calls paid, and every class of Stock Exchange business effected.

There being a considerable amount of money locked up in shares not prominently held by the public, and consequently difficult of sale, Messrs. T. FULLER and Co. invite the holders of such stock to communicate with them, having channels for the disposal of every description of shares.

FOR SPECIAL SALE:—Shares in an established company (limited), the property of which, and in several mines which pay regular dividends of 12½ to 20 per cent.

Messrs. FULLER and Co. having had upwards of 20 years' experience in the mining market, prompt them to point out shares in certain progressive mines as prizes for the year 1863.

Telegraphic messages promptly attended to.

Commission, 1¼ per cent.

Bankers: Metropolitan and Provincial.

TO CAPITALISTS.—MESSRS. LEICESTER AND CO.,

INSPECTORS and VALUERS of MINES, &c., MELBOURNE, VICTORIA.

OFFER THEIR SERVICES to SELECT and INVEST CAPITAL in MINING PROPERTIES, for which they charge 2½ per cent.; and they also COLLECT and TRANSFER the DIVIDENDS, charging 25 per cent. on their amount. Messrs. LEICESTER and Co. earnestly call the attention of capitalists to the many opportunities they possess of investing extra. All remittances must be made through our agent, Mr. RICHARD MINNICK, Mining Journal office, 38, Fleet-street, London; or direct through our bankers, the Union Bank of Australia.

JOINT-STOCK COMPANIES.—ADVICE (and if required)

PROFESSIONAL ASSISTANCE GIVEN to any bona fide undertaking, by

MR. LEE STEVENS, 36, CANNON STREET, E.C.

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THE MINING SHARE LIST

DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
1000	Alderley Edge (Cheshire) [L.]	10 0 0	—	—	7 18 6	0 10 0—May, 1862
4000	Bellfield United (copper), Tavistock	2 6 8	—	—	13 0 0	0 2 6—Dec. 1862
240	Boscon (tin), St. Just	20 10 0	—	—	36 10 0	1 0 0—Mar. 1862
200	Bottalack (tin), St. Just	91 5 0	—	—	455 15 0	0 0 0—Nov. 1862
5000	Brondyhead (lead), Cardigan [L.]	2 7 6	—	—	0 7 0 0	0 0 0—Jan. 1863
916	Cargill (silver-lead), Newlyn	15 7 4	44	40 44	2 5 0 0	1 0 0—Feb. 1863
1000	Carn Brea (copper), Illogan	15 0 0	—	—	273 10 0	2 10 0—Feb. 1862
256	Copper Hill (copper) Redruth	48 0 0	85	82 87 1/2	9 10 0	2 10 0—Sept. 1862
12000	Copper Mines of England	25 0 0	—	—	7 1/2 per cent.	Half-yearly
50000	Doitto (stock)	100 0 0	—	—	1 10 0	0 0 0—July, 1862
1056	Craddock Moor (copper), St. Cleer	8 0 0	—	—	12 12 0	0 4 0—July, 1862
512	Greenbrow and Penkwith, St. Cleer	8 0 0	—	—	10 10 0	0 10 0—Jan. 1863
867	Cwm Erddin (lead), Cardigan [L.]	7 10 0	17 1/2	—	8 8 0	0 10 0—April, 1863
128	Cwmystwith (lead), Cardigan [L.]	60 0 0	100	—	251 10 0	0 0 0—Mar. 1863
200	Derwent Mines (all-lead), Durham	360 0 0	—	—	147 0 0	0 0 0—June, 1862
1024	Devon Gt. Con. (copper), Tavistock [S.E.]	1 0 0	540	505 825	845 10 0	0 0 0—Mar. 1863
358	Dolgoth (copper), Carnarvon	128 17 6	—	—	701 10 0	0 0 0—Feb. 1863
12800	Drake Walls (tin), Calstock	2 1 0	2 1/2	2 1/2	0 16 0	1 6 0—Feb. 1863
5000	Dryngwm (lead), Wales	12 6 6	—	—	0 17 0	0 0 0—Jan. 1863
512	East Basset (copper), Redruth [S.E.]	29 10 0	8	15 87	6 15 0	0 17 0—April, 1863
5144	East Caradoc (copper), Redruth [S.E.]	2 14 6	41	41 42 1/2	85 10 0	1 0 0—Mar. 1863
2000	East Darwen (lead), Cardigan [L.]	20 0 0	—	—	325 0 0	0 0 0—Feb. 1863
128	East Pool (tin), Pool, Illogan	24 5 0	—	—	—	—
2800	Foxdale (lead) Isle of Man [L.]	25 0 0	—	—	—	—
5000	Frank Mills (lead), Devon	3 18 6	—	—	0 16 0	0 2 0—Mar. 1862
1798	Great Wheal Fortune (tin), Breage	18 6 0	38	36 37	3 15 0	0 15 0—Feb. 1863
5908	Great Wh. Vor (tin), Helston [S.E.]	40 0 0	—	—	2 7 6	0 0 0—Mar. 1863
10240	Gunn's Lake (Clitters' A31)	0 2 0	—	—	21 10 0	1 6 0—Mar. 1862
1024	Hibernian (lead), near Liskeard [S.E.]	8 10 0	—	—	21 10 0	1 6 0—Oct. 1862
1000	Hibernian Mine Company	92 6 2	—	—	403 10 0	4 0 0—Mar. 1863
9000	Liburne (lead), Cardigan [L.]	7 10 0	120	—	2 8 0	0 2 0—April, 1863
9000	Marble Valley (copper), Cardigan	4 10 0	8 1/2	8 1/2	107 10 0	0 0 0—Feb. 1863
1800	Miners Mining Co. (L.), (id.), Wrexham	25 0 0	—	—	18 18 1	0 7 6—Aug. 1862
640	Mount Pleasant (lead), Mold	4 0 0	—	—	0 2 0	0 2 0—Mar. 1863
40000	Myndy (iron ore) [L.] [S.E.]	2 10 0	—	—	0 6 0	0 1 6—April, 1863
5936	North Treakeby (copper), St. Agnes	1 9 0	3 1/2	3 1/2	0 4 0	0 8 0—Mar. 1862
5000	Orehead (lead), Flintshire	0 8 0	—	—	36 19 0	0 2 6—Mar. 1863
640	Par Consols (copper), St. Bazez [S.E.]	1 2 6	—	—	57 10 0	10 0—Jan. 1863
202	Parys Mines (copper), Anglesey [L.]	60 0 0	—	—	7 9 0	0 10 0—April, 1863
400	Phonix (copper and tin)	—	—	—	67 5 0	1 0 0—Feb. 1863
1172	Polymer (tin), St. Agnes	10 6 7	43	42 43	0 8 0	0 2 6—Sept. 1862
112	Providence (tin), Uny Lelant [S.E.]	10 6 7	43	—	1250 0 0	100 0—Quarterly
6000	Rosewall Hill (lead), Ransom United	2 16 0	—	—	40 0 0	0 4 0—Mar. 1863
16	Rosewall (lead)	40 0 0	—	—	73 10 0	1 0 0—Mar. 1862
512	South Caradoc (copper), St. Cleer [S.E.]	1 5 0	400	395 405	0 5 0	0 0 0—Dec. 1862
512	South Toluca (copper), Redruth, Cornwall	8 0 0	57 1/2	57 1/2	366 5 0	1 0 0—Mar. 1863
5000	South Exmouth (lead), Christow	1 0 0	—	—	0 6 0	0 6 0—June, 1862
406	S. Wh. Frances (copper), Illogan [S.E.]	18 18 9	95	87 1/2 93 1/2	9 18 0	0 0 0—June, 1862
1024	South Woolley	0 5 6	—	—	48 0 0	0 0 0—Nov. 1862
280	Spearhead (tin), copper, St. Just	21 17 9	—	25	11 0 0	2 0 0—April, 1863
940	St. Ives Consols (tin), St. Ives	8 0 0	—	—	11 0 0	2 0 0—Mar. 1862
6000	Tincoff (copper), Pool, Illogan [S.E.]	9 0 0	23	21 22	11 0 0	2 0 0—Mar. 1862
1000	Trumpet Consols (tin), near Helston	11 10 0	—	—	4 12 6	1 0 0—Oct. 1862
4200	Vigra and Clogau (copper) [L.] [S.]	2 15 0	—	—	23 11 0	0 0 0—Jan. 1863
2000	West Basset (copper), Illogan [S.E.]	1 10 0	13	12 13	101 1 3	0 10 0—Oct. 1862
1024	West Caradoc (copper), Liskeard [S.E.]	5 0 0	34	30 34	46 1 0	1 0 0—Jan. 1863
256	West Damsel (copper), Gwennap	38 10 0	—	—	0 19 0	0 3 0—May, 1862
6100	West Fowey Consols (tin and copper)	7 10 0	—	—	2 19 6	2 19 6—May, 1862
1024	West Penryn (copper)	4 0 0	—	—	373 0 0	5 0 0—Feb. 1863
400	W. Wh. Basset (copper), Carnarvon [S.E.]	47 10 0	—	—	2 0 0	1 0 0—April, 1863
512	Wheal Basset (copper), Illogan [S.E.]	2 0 0	70	26 27	2 0 0	1 0 0—April, 1863
1000	Wheal Basset and Grylls (tin)	7 0 0	—	—	28 0 0	0 7 6—Dec. 1862
2900	Wheal Clifford Amalgamated (copper), Gwennap	20 0 0	21	20 22	4 2 0	1 0 0—Mar. 1863
1024	Wheal Grylls (tin), Penryn	2 4 0	32	30 32	3 4 0	2 6 0—April, 1863
4800	Wheal Ludoct and Wrey (lead), St. Ives	2 10 8	6 1/2	5 1/2	75 5 0	1 0 0—Nov. 1862
896	Wheal Margaret (tin), Uny Lelant [S.E.]	9 17 6	38	36 38	284 5 0	4 0 0—Mar. 1863
100	Wheal Mary (tin), Lelant	36 2 6	—	—	318 3 0	7 10 0—Feb. 1863
1024	Wheal Mary Ann (id.), Menheniot [S.E.]	8 0 0	16	15 16 1/2	147 15 0	0 0 0—Feb. 1863
80	Wheal Owles (tin), St. Just, Cornwall	70 0 0	—	—	46 12 6	0 10 0—Mar. 1863
1024	Wheal Prosper (tin), Lanivet	0 8 6	—	—	—	—
396	Wheal Tawney (copper), Carnarvon	58 10 0	227 1/2	252 255	—	—
1040	Wheal Trelawny (all-lead), Liskeard [S.E.]	5 17 0	16 1/2	16 1/2	—	—

* Dividends paid every two months. † Dividends paid every three months.

MINES WITH DIVIDENDS IN ABEYANCE.

700	Aberdovey (silver-lead), Merioneth	1 10 0	—	—	0 10 0	0 10 0—Mar. 1859
200	Cefn Cwyr Brynno (lead), Cardigan	33 0 0	—	—	0 0 0	0 0 0—April, 1861
256	Cundorow (copper), tin, Carnarvon	55 0 0	—	—	85 0 0	2 0 0—June, 1862
2450	Cook's Kitchen (copper), Illogan	17 9 2	28	26 1/2 27	1 7 0	0 7 0—May, 1862
4076	Devon and Cornwall (copper)	5 16 3	—	—	0 10 0	0 2 6—Feb. 1859
672	Ding Dong (tin), Gwilt	40 13 6	—	—	16 7 6	1 10 0—Mar. 1862
940	Fowey Consols (copper), Tywardreath	4 0 0	—	—	41 9 3	2 6 0—June, 1860
6000	Great South Toluca (S.E.), Redruth	0 14 6	5 1/2	5 1/2	7 18 6	0 0 0—Dec. 1862
5000	Kelly Bray (lead, copper), Callington	4 15 6	—	—	0 6 0	0 0 0—Feb. 1860
160	Levant (copper), tin, St. Just	2 10 0	—	—	1091 0 0	5 0 0—May, 1860
2000	Miner's Con. (copper), lead, copper	10 0 0	19 1/2	—	7 1 1	0 7 0—Dec. 1861
5000	New Birch Tor and Vifler Cons. (tin)	1 6 4	—	—	0 3 0	0 1 0—Sept. 1861
470	Newtownards Mining Co., Co. Down	60 0 0	—	—	56 0 0	1 0 0—Sept. 1858
6000	North Downs (copper) Redruth	2 3 4	3	2 1/2 3	0 10 0	0 2 6—May, 1862
4026	Rosewarne Consols (copper)	3 12 6	—	—	0 2 0	0 2 0—Oct. 1862
12900	Sortridge Con. (copper), Whitechurch [S.E.]	0 17 0	—	—	0 10 0	0 2 0—July, 1862
6000	Talvaden (copper), Marazion	1 0 0	—	—	0 13 0	0 3 0—Jan. 1860
9800	Tamar Con. (all-lead), Berrisford [S.E.]	4 10 0	16s.	13s. 16s.	8 0 0	0 3 0—Jan. 1861
572	Trevelyan Consols (tin), St. Ives	12 10 0	—	—	7 0 0	0 10 0—Sept. 1860
1024	Wendron Consols (tin), Wendron	12 10 0	16 1/2	16 17	14 10 0	1 0 0—Jan. 1861
40	West Burton Gill (lead), York	60 0 0	—	—	14 10 0	1 0 0—Jan. 1861
256	Wheal Buller (copper), Redruth [S.E.]	8 0 0	60	60 62 1/2	220 0 0	2 0 0—Feb. 1861
1024	Wheal Friendship (copper), Devon	60 0 0	80	—	2400 10 0	5 0 0—Feb. 1861
1024	Wheal Hearn (tin), St. Just	9 18 8	—	—	0 5 0	0 5 0—May, 1862
512	Wheal Jane (silver-lead), Kes	3 10 0	—	—	13 10 0	1 0 0—Mar. 1862
1024	Wheal Kitty (tin), Uny Lelant [S.E.]	2 0 0	—	—	8 10 0	0 10 0—April, 1862
4296	Wheal Kitty (tin), St. Agnes	4 19 6	5	4 1/2 4 1/2	0 18 6	0 2 0—July, 1860
5000	Wicklow (copper) [L.]	5 0 0	—	—	43 17 6	2 0 0—Oct. 1861

FOREIGN MINES.

2454	Burra Burra (copper), South Australia	5 0 0	—	—	300 0 0	5 0 0—Oct. 1862
6000	Central American (silver) [L.]	5 0 0	—	—	2 2 0	0 14 0—Oct. 1862
12000	Cobra Copper Co. (copper), Cuba [S.E.]	40 0 0	21	19 21	82 12 0	1 0 0—Jan. 1862
10000	Copago Mining Company, Chili [S.E.]	16 0 0	—	—	6 18 0	0 10 0—Nov. 1862
16000	East Indian Coal, Calcutta [L.]	10 0 0	—	—	7 1/2 per cent.	Yearly
20000	English and Australian [S.E.]	5 0 0	—	—	1 7 6	0 2 6—Feb. 1862
75000	Fortuna (lead), Spain [L.] [S.E.]	2 0 0	5 1/2	5 1/2	0 5 10	0 3 4—Mar. 1863
26000	Gen. Mining Assoc., Nova Scotia [S.E.]	30 0 0	22	20 22	19 5 0	1 0 0—June, 1862
68000	Kapunda Mining Co., Australia [S.E.]	1 0 0	1 1/2	—	0 10 0	0 1 0—June, 1862
15000	Linares (copper), Pozo Ancho, Spain [S.E.]	3 0 0	—	—	0 19 0	0 1 0—Feb. 1863
10000	Lusitania (of Portugal) [S.E.]	2 0 0	—	—	0 9 6	0 1 6—July, 1859
10815	Marquis and New Granada [S.E.]	1 0 0	1	—	0 8 6	0 2 6—Jan. 1863
100000	Port Phillip (gold), Clunes [S.E.]	1 0 0	1 1/2	1 1/2	54 15 0	4 0 0—Dec. 1862
11000	St. John del Rey [L.]	15 0 0	57	55 57	2 1 6	0 0 0—Oct. 1862
43174	Unit Mexican (all-lead), Mexico [S.E.]	28 0 0	6 1/2	6 1/2	0 2 0	0 2 0—Nov. 1862
30000	West Canada Mining Company [L.]	1 0 0	—	—	0 2 0	0 2 0—Nov. 1862

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

10000	Altan and Quanaquang (copper), [L.] [S.E.]	4 10 0	—	—	4 5 0	0 15 0—Nov. 1853
10000	Gt. Barrier Lead, Min. Ac., N. Ze.	4 10 0	—	—	15 per cent.	—
16000	Pontgibaud (all-lead), France [S.E.]	20 0 0	3	—	1 0 0	1 0 0—June, 1855

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
30000	Australian (copper), South Australia [S.E.]	7 6 0	1 1/2	1 1/2	Sept. 1858
20000	Beaumont (tin), [L.] [S.E.]	0 10 0	—	—	Oct. 1862
75000	Ben Accord (copper), South Australia [L.] [S.E.]	2 10 0	—	—	Jan. 1863
15000	Cape Copper Mining Company [L.] [S.E.]	0 10 0	—	—	Jan. 1863
25000	Capula (silver), Mexico [L.] [S.E.]	0 10 0	—	—	Jan. 1863
17000	Central Italian (copper) [7000 £ paid]	0 6 0	—	—	Jan. 1863
60000	Clarendon Consols (copper), Jamaica [S.E.]	1 2 6	—	—	July, 1862
10000	Copago Smelting [L.]	10 0 0	—	—	Fully paid.
100000	Don Pedro North Del Rey (gold), Brazil [L.] [S.E.]	6 10 0	1	1 1/2	Aug. 1862
75000	Don Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	—	—	Fully paid.
25000	East del Rey, Brazil [L.] [S.E.]	1 0 0	1 1/2	1 1/2	Sept. 1861
30000	East Kongsberg Native Silver Mining Co. of Norway [L.] [S.E.]	1 7 6	—	—	Mar. 1862
50000	Elbe Colliery Company [L.]	1 0 0	—	—	Fully paid.
30000	Ellerslie and Bardonia, Jamaica	0 18 0	—	—	Aug. 1859
8000	English and Canadian Mining Company [L.]	8 0 0	—	—	Fully paid.
40000	Fortuna (copper), West Australia [L.]	2 0 0	—	—	Fully paid.
80000	Great Northern (copper), South Australia [L.] [S.E.]	1 10 0	—	—	June, 1862
24000	Hindostan (copper), Bengal [L.] [S.E.]	3 0 0	—	—	Feb. 1863
4000	Hope Silver-Lead and Copper Mining Co. [L.]	25 0 0	—	—	Fully paid.
60000	Imperial Thessalian (lead, &c.), Thessaly [L.] [S.E.]	0 10 0	—	—	June, 1860
10000	Karibitz Colliery Company [L.]	1 0 0	—	—	Fully paid.
30000	Laguna (copper), Portugal [L.] [S.E.]	1 0 0	—	—	Fully paid.
100000	Montes Azules (gold), Brazil [L.] [S.E.]	1 0 0	—	—	Aug. 1862
3000	New Burra Burra (Australia)	5 0 0	—	—	Fully paid.
60000	New Granada (gold), South America [S.E.]	1 0 0	—	—	Fully paid